

B. Aditya Prakash

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RESEARCH INTERESTS

I am broadly interested in **Data Science**, **Machine Learning** and **AI** with emphasis on solving **big-data** problems in **networks** and **sequences**. Many research questions I answer deal with understanding and managing efficiently, dynamical mechanisms (like propagation) on networks, occurring across natural, social and technological systems. These include problems motivated from **public health**, **security**, **urban computing** and **the Web**. My research combines theoretical analysis of models, developing efficient algorithms and empirical studies on large scale data.

EDUCATION

Carnegie Mellon University, Pittsburgh PA, USA

PhD. in Computer Science

August 2007 - September 2012

— Committee: Prof. Christos Faloutsos (Advisor, Chair),
Prof. Roni Rosenfeld (CMU), Prof. David Andersen (CMU)
& Prof. Jon Kleinberg (Cornell University)

MS in Computer Science, August 2011

Indian Institute of Technology - Bombay, INDIA

B.Tech in Computer Science and Engineering

July 2003 - May 2007

— Advisor: Prof. S. Sudarshan

EMPLOYMENT

Georgia Institute of Technology, Atlanta GA, USA

Associate Professor (with tenure)

January 2020 - present

School of Computational Science and Engineering
College of Computing

Director of External Engagement

August 2020 - present

Institute for Data Engineering and Science (IDEaS)

Member, The Center for Machine Learning (ML@GT)

Virginia Tech., Blacksburg VA, USA

Associate Professor (with tenure)

August 2019 - December 2019

Department of Computer Science

Assistant Professor

December 2012 - July 2019

Department of Computer Science

Member, Discovery Analytics Center (DAC)

Yahoo! Research, Santa Clara CA, USA

Summer Research Intern

June-August 2011

Algorithms and Data Mining Group

Microsoft Research, Redmond WA, USA

Summer Research Intern
Knowledge Tools Group

June-August 2009

Sprint Research Labs, Burlingame CA, USA

Summer Research Intern
Networks and Mining Group

May-July 2008

University of British Columbia, Vancouver BC, Canada

Summer Research Intern
Database Group

May-July 2006

SERC, Indian Institute of Science, Bangalore, India

Summer Research Intern
Database Research Lab

May-July 2005

SELECTED
ACHIEVEMENTS

- ◇ Received the **Best Paper Award**, ICML Intl. Conf. on Machine Learning AI4ABM Workshop (2022).
- ◇ Recognized via **Thank-a-Teacher** from Center for Teaching and Learning (CTL) at Georgia Tech. (2021)
- ◇ Awarded **Facebook Faculty Award** for Statistics, Insights and Decisions (2021)
- ◇ Awarded **1st place** (out of 115 teams globally) in the Facebook/CMU/CatalystHealth COVID Symptom Challenge (2020)
- ◇ Awarded **2nd place** (out of 777 participants globally) in the C3AI COVID-19 Grand Challenge (2020)
- ◇ Selected for **best papers of AAMAS 2020**, Intl. Conf. on Autonomous Systems and Multi-Agent Systems (2020)
- ◇ Recognized via **Thank-a-Teacher** from Center for Excellence in Teaching and Learning at VT. (2018 and 2019)
- ◇ Received the **NSF CAREER** award. (2018)
- ◇ Named as one of **AI's 10 to Watch** by IEEE. (2017)
- ◇ Selected for **best papers of ICDM 2017**, IEEE Intl. Conf. on Data Mining. (2017)
- ◇ Received the **Facebook Faculty Award**. (2015)
- ◇ Selected for **best papers of ASONAM 2013**, ACM/IEEE Intl. Conf. on Social Networks. (2013)
- ◇ Received the **SIAM Early Career Travel Award**, SDM—SIAM Data Mining Conf. (2013 and 2015)
- ◇ Selected for **best papers of ICDM 2012**, IEEE Intl. Conf. on Data Mining. (2012)
- ◇ Received the **CIKM Best Paper Award (all three tracks) 2012**, ACM Conf. on Information and Knowledge Management. (2012)
- ◇ Selected for **best papers of ICDM 2011**, IEEE Intl. Conf. on Data Mining. (2011)
- ◇ Received multiple **travel awards** for conferences. (2008-2012)
- ◇ Awarded the **CMU SCS Graduate Fellowship**. Received perfect GRE and TOEFL scores. (2007)
- ◇ Secured **All India Rank (AIR) 58** out of 172,000 candidates in the IIT - Joint Entrance Examination (IIT JEE) (2003)
- ◇ Placed in the **top 0.1%** of students in NSEP & NSEC and hence selected for Indian National **Physics and Chemistry Olympiads (InPhO & InChO)** (2003)
- ◇ Awarded the **Jawaharlal Nehru Science and Engg. Scholarship** by Govt. of India. (2003)
- ◇ Awarded the **Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship (Young Scientist Encouragement Fellowship)** by the Department of Science & Technology, Govt. of India and administered by Indian

Institute of Science, Bangalore. (2001)
webpage - <http://www.kvpy.iisc.ernet.in/main/>

◇ Awarded the **National Talent Search Examination (NTSE) Scholarship** by NCERT (New Delhi). (2001)

PUBLICATIONS

Theses

- T1. B. Aditya Prakash. Understanding and Managing Propagation on Large Networks: Theory, Algorithms and Models. *PhD. Thesis, Carnegie Mellon University, 2012.*
- T2. B. Aditya Prakash. On Query Optimization Issues in Fine-Grained Access Control. *Senior Thesis, IIT-Bombay, 2007.*

Book

- B1. V. S. Subrahmanian, Michael Ovelgonne, Tudor Dumitras and B. Aditya Prakash. *The Global Cyber-Vulnerability Report*. Springer. DOI: 10.1007/978-3-319-25760-0. 2015.

Book Chapters

- BC1. B. Aditya Prakash. Graph Mining for Cyber Security. In S. Jajodia et al. (eds.), *Cyber Warfare—Building the Scientific Foundation*, Advances in Information Security 56. 287-306. Springer. DOI: 10.1007/978-3-319-14039-1. 2015

Invited Articles

- A1. Anika Tabassum, Supriya Chinthavali, Liangzhe Chen and B. Aditya Prakash. Data Mining Critical Infrastructure Systems: Models and Tools. *IEEE Intelligent Informatics Bulletin (IIB)*, Dec 2018 Issue.
- A2. B. Aditya Prakash. Network and Propagation Analysis (as part of 'AIs 10 to Watch: The Future of AI'). *IEEE Intelligent Systems Magazine*, vol 33, Issue 1, 4-17. Jan-Feb 2018 Issue. DOI = 10.1109/MIS.2018.012001549
- A3. B. Aditya Prakash. Prediction using Propagation: From Flu-Trends to Cyber Security. *IEEE Intelligent Systems Magazine*, vol 31, Issue 1, 84-88, 10.1109/MIS.2016.1. Jan-Feb 2016 Issue.
- A4. B. Aditya Prakash. Propagation and Immunization in Large Networks. *Crossroads: The ACM Magazine for Students - Big Data Issue* 19, 1 (September 2012), 56-59. DOI=10.1145/2331042.2331059. 2012.

Highly Refereed Journals (student authors advised by me marked with *)

- J1. Alexander Rodriguez*, Harshavardhan Kamarthi*, Pulak Agarwal*, Javen Ho*, Mira Patel*, Suchet Sapre* and B. Aditya Prakash. Machine Learning for Data-Centric Epidemic Forecasting. *Nature Machine Intelligence*. Forthcoming. *Impact Factor: 23.8*
- J2. Jiaming Cui*, Jack Heavey, Leo Lin, Eili Y. Klein, Gregory R. Madden, Costi D. Sifri, Bryan Lewis, Anil Vullikanti and B. Aditya Prakash. *Inf. Control and Hosp. Epidemiology (ICHE)*. February 2024, *Impact Factor: 6.52*
- J3. Jiaming Cui*, Sungjun Cho*, Methun Kamruzzaman, Matthew Bielskas, Anil Vullikanti and B. Aditya Prakash. Using spectral characterization to identify healthcare-associated infection (HAI) patients for clinical contact precaution. *Scientific Reports*. September 2023. *Impact Factor: 4.6*
- J4. Ayush Chopra, Alexander Rodriguez*, B. Aditya Prakash, Ramesh Raskar and Thomas Kingsley. Using Neural Networks to Calibrate Agent Based Models Enables Improved Regional Evidence for Vaccine Strategy and Policy. *Vaccine - Special Issue in ML-Driven Vaccine Development against Emerging Infections*. September 2023. *Impact Factor: 5.5*

- J5. Vedant Das Swain*, Jijia Xie*, Maanit Madan, Sonia Sargolzaei, James Cai, Munmun De Choudhury, Gregory D. Abowd, Lauren N. Steimle and B. Aditya Prakash. Empirical networks for localized COVID-19 interventions using WiFi infrastructure at university campuses. *Frontiers Digital Health*. May 2023. *Impact Factor: 5*
- J6. E. Cramer et al (w/ Alexander Rodriguez*, Jiaming Cui* and others). Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the US. *Proceedings of the National Academy of Sciences (PNAS)*. 2022. *Impact Factor: 11.2*
- J7. Nikhil Muralidhar, Anika Tabassum*, Liangzhe Chen*, Supriya Chinthavali, Naren Ramakrishnan, and B. Aditya Prakash. Cut-n-Reveal: Timeseries segmentations with explanations. *ACM Transactions on Intelligent Systems and Technology (TIST)* 2020. *Impact Factor: 3.19*
- J8. Sorour E. Amiri*, Anika Tabassum*, E. Thomas Ewing and B. Aditya Prakash. Tracking and Analyzing Dynamics of News-cycles during Global Pandemics: A Historical Perspective. *SIGKDD Explorations*. Vol 21, Issue 2. 2019. *Impact Factor: 6.48*
- J9. Bijaya Adhikari*, Bryan Lewis, Anil Vullikanti, Jose Mauricio Jimenez, and B. Aditya Prakash. Fast and Near-Optimal Monitoring for Healthcare Acquired Infection Outbreaks. *PLoS Computational Biology (PLoS CompBio)* 2019. *Impact Factor: 4.43 (Highlighted in the PLoS Complexity Channel)*
- J10. Yao Zhang*, Arvind Ramanathan, Anil Vullikanti, Laura Pullum, and B. Aditya Prakash. Data Driven Efficient Network and Surveillance-based Immunization. *Knowledge and Information Systems Journal (KAIS)* 2019. *Impact Factor: 2.225*
- J11. Sorour Amiri*, Liangzhe Chen* and B. Aditya Prakash. Efficiently Summarizing Attributed Diffusion Networks. *Data Mining and Knowledge Discovery Journal (DAMI)—ECML/PKDD Journal Track, Dublin*. 2018. *Impact Factor: 3.10*
- J12. Sorour Amiri*, Liangzhe Chen* and B. Aditya Prakash. Automatic Segmentation of Dynamic Network Sequences with Node Labels. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. 2018. *Impact Factor: 2.067*
- J13. Bijaya Adhikari*, Yao Zhang*, Sorour E. Amiri*, Aditya Bharadwaj, and B. Aditya Prakash. Propagation based Temporal Network Summarization. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. 2018. *Impact Factor: 2.067*
- J14. Yasuko Matsubara, Yasushi Sakurai, B. Aditya Prakash, Lei Li and Christos Faloutsos. Non-linear Dynamics of Information Diffusion in Social Networks. *ACM Transactions on the Web (TWEB)*. 2017. *Impact Factor: 2.414*
- J15. Michael Ovelgonne, Tudor Dumitras, B. Aditya Prakash, V. S. Subrahmanian and Benjamin Wang*. Understanding the Relationship between Human Behavior and Susceptibility to Cyber-Attacks: A Data-Driven Approach. *ACM Transactions on Intelligent Systems and Technology (TIST)*. 2017. *Impact Factor: 1.252*
- J16. Yao Zhang*, Abhijin Adiga, Sudip Saha, Anil Vullikanti and B. Aditya Prakash. Near-optimal Algorithms for Controlling Propagation at Group Scale on Networks. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. 2016. *Impact Factor: 2.067*
- J17. Larry Holder, Maleq Khan and others. Current and Future Challenges in Mining Large Networks. *SIGKDD Explorations*. Vol. 18, Issue 1. 2016. *Impact Factor: 6.48*
- J18. Chen Chen, Hanghang Tong, B. Aditya Prakash, Tina Eliassi-Rad, Michalis Faloutsos and Christos Faloutsos. Eigen-Optimization on Large Graphs by Edge Manipulation. *ACM Transactions on Knowledge Discovery and Data Mining (TKDD)*. 2016. *Impact Factor: 1.68*
- J19. Chen Chen, Hanghang Tong, B. Aditya Prakash, Charalampos Tsourakakis, Tina Eliassi-Rad, Christos Faloutsos and Duen Horng Chau: Node Immunization on Large Graphs: Theory and Algorithms. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, vol 28, issue 1, 113-126. 2016. *Impact Factor: 2.067*

- J20. Liangzhe Chen*, K. S. M. Tozammel Hossain, Patrick Butler, Naren Ramakrishnan and B. Aditya Prakash. Syndromic Surveillance of Flu on Twitter Using Weakly Supervised Temporal Topic Models. *Data Mining and Knowledge Discovery Journal (DAMI)*. 2015. *Impact Factor: 3.10*.
- J21. Yao Zhang* and B. Aditya Prakash. Data-Aware Vaccine Allocation over Large-Networks. *ACM Transactions on Knowledge Discovery and Data Mining (TKDD) vol 10, 2, 1556-4681*. 2015. *Impact Factor: 1.68*.
- J22. Evangelos E. Papalexakis, Tudor Dumitras, Duen Horng Chau, B. Aditya Prakash and Christos Faloutsos. SharkFin: Spatio-temporal mining of software adoption and penetration. *Social Network Analysis and Mining Journal, vol 4:240*. 2014.
- J23. B. Aditya Prakash, Jilles Vreeken, and Christos Faloutsos. Efficiently Spotting the Starting Points of an Epidemic in a Large Graph. *Knowledge and Information Systems Journal (KAIS) vol 38, no. 1, 35-59*. 2014. *Impact Factor: 2.225*.
- J24. Xuetao Wei, Nicholas Valler, B. Aditya Prakash, Iulian Neamtiu, Michalis Faloutsos and Christos Faloutsos. Competing Meme Propagation on Networks: A Network Science Perspective. *IEEE Journal on Selected Areas in Communication (JSAC), vol. 31, no. 6, 1049-1060*. 2013. *Impact Factor: 4.138*.
- J25. B. Aditya Prakash, Christos Faloutsos: Understanding and Managing Cascades on Large Graphs. *PVLDB 5(12): 2024-2025 (2012)*.
- J26. Xuetao Wei, Nicholas Valler, B. Aditya Prakash, Iulian Neamtiu, Michalis Faloutsos and Christos Faloutsos. Competing Meme Propagation on Networks: A Case Study of Composite Networks. *ACM SIGCOMM Computer Communication Review 42, 5, (September 2012), 5-12, 2012*.
- J27. B. Aditya Prakash, Deepayan Chakrabarti, Michalis Faloutsos, Nicholas Valler, Christos Faloutsos. Threshold Conditions for Arbitrary Cascade Models on Arbitrary Networks. *Knowledge and Information Systems Journal (KAIS)*. 2012, doi:10.1007/s10115-012-0520-y. *Impact Factor: 2.225*.
- J28. Shipra Agarwal, Jayant R. Haritsa and B. Aditya Prakash. FRAPP: A Framework for high-Accuracy Privacy-Preserving Mining. *Intl. Journal on Data Mining and Knowledge Discovery (DAMI), Springer, vol. 18, no. 1*. February 2009, Ed: Johannes Gehrke. *Impact Factor: 3.10*.

Highly Refereed Conferences (student authors advised by me marked with *)

- C1. Zhiyuan Zhao*, Xueying Ding and B. Aditya Prakash. PINNsFormer: A Transformer-Based Framework For Physics-Informed Neural Networks. *ICLR 2024, Vienna*.
- C2. Vivek Anand^{1,*}, Jiaming Cui^{1,*}, Jack Heavey, Anil Vullikanti and B. Aditya Prakash. H2ABM: Heterogeneous Agent-based Model on Hypergraphs to Capture Group Interactions. *SIAM Data Mining SDM 2024, Houston*. (¹: joint first authors)
- C3. Harshavardhan Kamarthi*, Lingkai Kong, Alexander Rodríguez*, Chao Zhang and B. Aditya Prakash. PROFHIT: Probabilistic Robust Forecasting for Hierarchical Time-series. *SIGKDD 2023, Long Beach*.
- C4. Lingkai Kong, Jiaming Cui*, Haotian Sun, Yuchen Zhuang, B. Aditya Prakash, Chao Zhang. Autoregressive Diffusion Model for Graph Generation. *ICML 2023, Hawaii*.
- C5. Ayush Chopra¹, Alexander Rodríguez^{1,*}, Jayakumar Subramanian, Arnau Quera-Bofarull, Balaji Krishnamurthy, B. Aditya Prakash and Ramesh Raskar. *AAMAS 2023, London*. (¹: joint first authors)
- C6. Alexander Rodríguez*, Jiaming Cui*, Naren Ramakrishnan, Bijaya Adhikari and B. Aditya Prakash. EINNs: Epidemiologically-Informed Neural Networks. *AAAI Conference on Artificial Intelligence (AAAI) 2023, Washington DC*. (oral)
- C7. Hankyu Jang, Andrew Fu, Jiaming Cui*, Methun Kamruzzaman, B. Aditya Prakash, Anil Vullikanti, Bijaya Adhikari and Sriram Pemmaraju. Detecting Sources of Healthcare Associated Infections. *AAAI Conference on Artificial Intelligence (AAAI) 2023, Washington DC*. (oral)

- C8. Lingkai Kong, Jiaming Cui*, Yuchen Zhuang, Rui Feng, B. Aditya Prakash, Chao Zhang. End-to-end Stochastic Programming with Energy-based Model. *Conference on Neural Information Processing Systems (NeurIPS) 2022, New Orleans*. (oral)
- C9. Harshavardhan Kamarthi*, Alexander Rodríguez* and B. Aditya Prakash. Back2Future: Leveraging Backfill Dynamics for Improving Real-time Predictions in Future. *International Conference on Learning Representations (ICLR) 2022, virtual*.
- C10. Harshavardhan Kamarthi*, Lingkai Kong, Alexander Rodríguez*, Chao Zhang and B. Aditya Prakash. CAMUL: Calibrated and Accurate Multi-view Time-Series Forecasting. *The Web Conference (WWW) 2022, Lyon*.
- C11. Jack Heavey, Jiaming Cui*, Chen Chen, B. Aditya Prakash, Anil Vullikanti. Provable Sensor Sets for Epidemic Detection over Networks with Minimum Delay. *AAAI Conference on Artificial Intelligence (AAAI) 2022, Vancouver*.
- C12. Anika Tabassum*, Supriya Chinthavali, Sangkeun Lee, Nils Stenvig, Bill Kay, Teja Kuruganti, and B. Aditya Prakash. Efficient Contingency Analysis in Power Systems via Network Trigger Nodes. *IEEE BigData (long paper), 2021, virtual*.
- C13. Harshavardhan Kamarthi*, Lingkai Kong, Alexander Rodríguez*, Chao Zhang and B. Aditya Prakash. When in Doubt: Neural Non-Parametric Uncertainty Quantification for Epidemic Forecasting. *Conference on Neural Information Processing Systems (NeurIPS) 2021, virtual*.
- C14. Anika Tabassum*, Supriya Chinthavali, Varisara Tansakul and B. Aditya Prakash. Actionable Insights in Multivariate Time-series for Urban Analytics. *ACM International Conference on Knowledge and Information Management (CIKM) 2021, virtual*.
- C15. Alexander Rodríguez*, Anika Tabassum*, Jiaming Cui*, Jiajia Xie*, Javen Ho*, Pulak Agarwal*, Bijaya Adhikari and B. Aditya Prakash. DeepCOVID: An Operational Deep Learning-driven Framework for Explainable Real-time COVID-19 Forecasting. *AAAI Conference on Artificial Intelligence (AAAI) 2021, virtual*.
- C16. Alexander Rodriguez*, Nikhil Muralidhar, Bijaya Adhikari, Anika Tabassum*, Naren Ramakrishnan and B. Aditya Prakash. Steering a Historical Disease Forecasting Model Under a Pandemic: Case of Flu and COVID-19. *AAAI Conference on Artificial Intelligence (AAAI) 2021, virtual. Acceptance Rate: 21%*.
- C17. Alexander Rodriguez, Bijaya Adhikari, Andres D. Gonzalez, Charles Nicholson, Anil Vullikanti, and B. Aditya Prakash. Mapping Network States using Connectivity Queries. *IEEE BigData 2020. Acceptance Rate: 15.5%*.
- C18. Prathyush Sambaturu, Bijaya Adhikari*, B. Aditya Prakash, Srinivasan Venkatramanan and Anil Vullikanti. Designing Near-Optimal Temporal Interventions to Contain Epidemics. *AAMAS 2020, Auckland. (Invited to JAAMAS Special Issue Best Papers of AAMAS)*.
- C19. Bijaya Adhikari*, Xinfeng Xu*, Naren Ramakrishnan and B. Aditya Prakash. EpiDeep: Exploiting Embeddings for Epidemic Forecasting. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2019, Anchorage. Acceptance Rate: 9.16%. (Our framework was the top performer in the CDC FluSight 2018/19 prediction challenge for the HHS1 Region)*
- C20. Anika Tabassumi*, Supriya Chinthavali, Sangkeun Lee, Liangzhe Chen and B. Aditya Prakash. UrbanNet: A System to Understand and Analyze Critical Infrastructure Networks for Emergency Management. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2019, Anchorage*.
- C21. Liangzhe Chen* and B. Aditya Prakash. Joint Post and Link-level Influence Modeling on Social Media. *SDM SIAM Data Mining Conference 2019, Calgary. Acceptance Rate: 22.7%*.
- C22. Sorour E. Amiri*, Bijaya Adhikari*, Aditya Bharadwaj, and B. Aditya Prakash. NetGist: Learning to generate task-based network summaries. *IEEE ICDM International Conference on Data Mining 2018, Singapore. Acceptance Rate: 11%*.

- C23. M. Raihanul Islam, Sathappan Muthiah, Bijaya Adhikari*, B. Aditya Prakash, and Naren Ramakrishnan. DeepDiffuse: Predicting the 'Who' and 'When' in Cascades. *IEEE ICDM International Conference on Data Mining 2018, Singapore. Acceptance Rate: 11%*.
- C24. Bijaya Adhikari*, Yao Zhang*, Naren Ramakrishnan and B. Aditya Prakash. Sub2Vec: Feature Learning for Subgraphs. *PAKDD Pacific-Asia Conference on Knowledge Discovery and Data Mining 2018, Melbourne. Acceptance Rate: 8%*.
- C25. M. Raihanul Islam, B. Aditya Prakash and Naren Ramakrishnan. Distributed Representations of Signed Networks. *PAKDD Pacific-Asia Conference on Knowledge Discovery and Data Mining 2018, Melbourne. Acceptance Rate: 8%*.
- C26. Bijaya Adhikari*, Parikshit Sondhi, Wenke Zhang, Mohit Sharma and B. Aditya Prakash. Mining E-Commerce Query Relations using Customer Interaction Networks. *ACM WWW World Wide Web Conference 2018, Lyon. Acceptance Rate: 15%*.
- C27. Bijaya Adhikari*, Pavan Rangudu, B. Aditya Prakash and Anil Vullikanti. Near-optimal Mapping of Network States using Probes. *SDM SIAM Data Mining Conference 2018, San Diego. Acceptance Rate: 23.2%*.
- C28. Liangzhe Chen*, Sorour Amiri*, and B. Aditya Prakash. Automatic Segmentation of Data Sequences. *AAAI Conference on Artificial Intelligence AAAI 2018, New Orleans. Acceptance Rate: 24%*.
- C29. Yao Zhang*, Arvind Ramanathan, Anil Vullikanti, Laura Pullum, and B. Aditya Prakash. Data-Driven Immunization. *IEEE ICDM International Conference on Data Mining 2017, New Orleans. Acceptance Rate: 8.4%. (Invited to KAIS Journal Best Papers of ICDM)*.
- C30. Liangzhe Chen*, Xinfeng Xu*, Sangkeun Lee, Sisi Duan, Alfonso G. Tarditi, Supriya Chinthavali and B. Aditya Prakash. HotSpots: Failure Cascades on Heterogeneous Critical Infrastructure Networks. *ACM CIKM Intl. Conference on Information and Knowledge Management 2017, Singapore. Acceptance Rate: 20%*.
- C31. Yao Zhang*, Bijaya Adhikari*, Steve Jan* and B. Aditya Prakash. MeiKe: Influence-based Communities in Networks. *SDM SIAM Data Mining Conference 2017, Houston. Acceptance Rate: 26%*.
- C32. Bijaya Adhikari*, Yao Zhang*, Aditya Bharadwaj and B. Aditya Prakash. Condensing Temporal Networks using Propagation. *SDM SIAM Data Mining Conference 2017, Houston. Acceptance Rate: 26%*.
- C33. Karthik Subbian, B. Aditya Prakash and Lada Adamic. Detecting Large Reshare Cascades in Social Networks. *ACM WWW World Wide Web Conference 2017, Perth. Acceptance Rate: 17%*.
- C34. Sorour Amiri*, Liangzhe Chen* and B. Aditya Prakash. SnapNETS: Automatic Segmentation of Network Sequences with Node Labels. *AAAI Conference on Artificial Intelligence AAAI 2017, San Francisco. Acceptance Rate: 24%*.
- C35. Polina Rozenshtein, Aristides Gionis, B. Aditya Prakash and Jilles Vreeken. Reconstructing an Epidemic over Time. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2016, San Francisco. Acceptance Rate: 17%*.
- C36. Ahsanur Rahman, Steve Jan*, Hyunju Kim, B. Aditya Prakash and T. M. Murali. Unstable Communities in Network Ensembles. *SDM SIAM Data Mining Conference 2016, Miami. Acceptance Rate: 25%*.
- C37. Chanhyun Kang, Noseong Park, B. Aditya Prakash, Edoardo Serra, and V. S. Subrahmanian. Ensemble Models for Data-Driven Prediction of Malware Infections. *ACM WSDM Web Search and Data Mining Conference 2016, San Francisco. Acceptance Rate: 18.2%*.
- C38. Yao Zhang*, Abhijin Adiga, Anil Vullikanti and B. Aditya Prakash. Controlling Propagation at Group Scale on Networks. *IEEE ICDM International Conference on Data Mining 2015, Atlantic City. Acceptance Rate: 8.4%*.
- C39. Shashidhar Sundereisan*, Jilles Vreeken and B. Aditya Prakash. Hidden Hazards: Finding Missing Nodes in Large Graph Epidemics. *SDM SIAM Data Mining Conference 2015, Vancouver. Acceptance Rate: 14%*.

- C40. Sudip Saha, Abhijin Adiga, B. Aditya Prakash and Anil Vullikanti. Approximation Algorithms for Reducing the Spectral Radius to control Epidemic Spread. *SDM SIAM Data Mining Conference 2015, Vancouver. Acceptance Rate: 14%*.
- C41. Liangzhe Chen*, K. S. M. Tozammel Hossain, Patrick Butler, Naren Ramakrishnan and B. Aditya Prakash. Flu Gone Viral: Syndromic Surveillance of Flu on Twitter using Temporal Topic Models. *IEEE ICDM International Conference on Data Mining, 2014, Shenzhen. Acceptance Rate: 19.53%*.
- C42. Yao Zhang* and B. Aditya Prakash. Scalable Vaccine Distribution in Large Graphs given Uncertain Data. *ACM CIKM Intl. Conference on Information and Knowledge Management 2014, Shanghai. Acceptance Rate: 20%*.
- C43. Manish Purohit, B. Aditya Prakash, Chanhyun Kang, Yao Zhang* and V. S. Subrahmanian. Fast Influence-based Coarsening for Large Networks. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2014, New York City. Acceptance Rate: 14.6%*.
- C44. Fang Jin, Rupinder Khandpur, Nathan Self, Edward Dougherty, Feng Chen, B. Aditya Prakash and Naren Ramakrishnan. Modeling Mass Protest Adoption in Social Network Communities using Geometric Brownian Motion. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2014, New York City. Acceptance Rate: 14.6%*.
- C45. Shashidhar Sundareisan*, Abhay Rao Bhadriraju, M. Saquib Khan, Naren Ramakrishnan and B. Aditya Prakash. SansText: Classifying Temporal Topic Dynamics of Twitter Cascades Without Tweet Text. *ACM/IEEE ASONAM Advances in Social Network Analysis and Mining Conference 2014, Beijing. Acceptance Rate: 18%*.
- C46. Yao Zhang* and B. Aditya Prakash. DAVA: Distributing Vaccines over Networks under Prior Information. *SDM SIAM Data Mining Conference 2014, Philadelphia Acceptance Rate: 15.4%*.
- C47. Evangelos E. Papalexakis, Tudor Dumitras, Duen Horng Chau, B. Aditya Prakash and Christos Faloutsos. Spatio-temporal Mining of Software Adoption & Penetration. *ACM/IEEE ASONAM Advances in Social Network Analysis and Mining Conference 2013, Niagara Falls. Acceptance Rate: 13%. (Invited to SNAM Journal Best Papers of ASONAM)*.
- C48. B. Aditya Prakash, Lada Adamic, Theodore Iwashnya, Hanghang Tong and Christos Faloutsos. Fractional Immunization on Networks. *SDM SIAM Data Mining Conference 2013, Austin. Acceptance Rate: 14.4%*.
- C49. Danai Koutra, Vaseilios Koutras, B. Aditya Prakash and Christos Faloutsos. Patterns amongst Competing Task Frequencies: Super-Linearities, and the Almond-DG model. *PAKDD Pacific-Asia Conference on Knowledge Discovery and Data Mining 2013, Gold Coast. Acceptance Rate: 11.3%*.
- C50. B. Aditya Prakash, Jilles Vreeken and Christos Faloutsos. Spotting Culprits in Epidemics: Who and How many?. *IEEE ICDM International Conference on Data Mining 2012, Brussels. Acceptance Rate: 10%. (Invited to KAIS Journal Best Papers of ICDM)*.
- C51. Hanghang Tong, B. Aditya Prakash, Tina Eliassi-Rad, Michalis Faloutsos and Christos Faloutsos. Gelling, and Melting, Large Graphs through Edge Manipulation. *ACM CIKM Intl. Conference on Information and Knowledge Management 2012, Hawaii. Acceptance Rate: 13.4%. (Received the CIKM Best Paper Award (all three tracks))*.
- C52. Yasuko Matsubara, Yasushi Sakurai, B. Aditya Prakash, Lei Li and Christos Faloutsos. Rise and Fall Patterns of Information Diffusion: Model and Implications. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2012, Beijing. Acceptance Rate: 17%*.
- C53. Alex Beutel, B. Aditya Prakash, Roni Rosenfeld and Christos Faloutsos. Interacting Viruses on a Network: Can both survive? *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2012, Beijing. Acceptance Rate: 17%*.
- C54. B. Aditya Prakash, Alex Beutel, Roni Rosenfeld and Christos Faloutsos. Winner-takes-all: Competing Viruses or Ideas on fair-play networks. *ACM WWW World Wide Web Conference 2012, Lyon. Acceptance Rate: 12%*.

- C55. B. Aditya Prakash, Deepayan Chakrabarti, Michalis Faloutsos, Nicholas Valler and Christos Faloutsos. Threshold Conditions for Arbitrary Cascade Models on Arbitrary Networks. *IEEE ICDM Intl. Conference on Knowledge Discovery and Data Mining 2011, Vancouver. Acceptance Rate: 12.85%. (Invited to KAIS Journal Best Papers of ICDM).*
- C56. Lei Li and B. Aditya Prakash. Times Series Clustering: Complex is Simpler!. *ICML Intl. Conference on Machine Learning 2011, Bellevue. Acceptance Rate: 25.8%.*
- C57. Nicholas Valler, B. Aditya Prakash, Hanghang Tong, Michalis Faloutsos and Christos Faloutsos. Epidemic Spreading on Mobile Ad Hoc Networks: Determining the Tipping Point. *IEEE/IFIP NETWORKING 2011, Valencia. Acceptance Rate: 21.8%.*
- C58. Hanghang Tong, B. Aditya Prakash, Tina Eliassi-Rad and Christos Faloutsos. On the Vulnerability of Large Graphs. *IEEE ICDM Intl. Conference on Knowledge Discovery and Data Mining 2010, Sydney. Acceptance Rate: 19.55%.*
- C59. B. Aditya Prakash, Hanghang Tong, Nicholas Valler, Michalis Faloutsos and Christos Faloutsos. Virus Propagation on Time-Varying Networks: Theory and Immunization Algorithms. *ECML-PKDD European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2010, Barcelona. Acceptance Rate: 18%.*
- C60. Lei Li, B. Aditya Prakash and Christos Faloutsos. Parsimonious Linear Fingerprinting for Time Series. *VLDB Very Large Databases Conference 2010, Singapore. Acceptance Rate: 17.6%.*
- C61. Keith Henderson, Tina Eliassi-Rad, Christos Faloutsos, Leman Akoglu, Lei Li, Koji Maruhashi, B. Aditya Prakash and Hanghang Tong. MetricForensics: A Multi-Level Approach for Mining Volatile Graphs. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2010, Washington D.C.. Acceptance Rate: 17.4%.*
- C62. B. Aditya Prakash, Ashwin Sridharan, Mukund Seshadri, Sridhar Machiraju and Christos Faloutsos. EigenSpokes: Surprising Patterns and Scalable Community Chipping in Large Graphs. *PAKDD 2010, Hyderabad. Acceptance Rate: 10.2%.*
- C63. B. Aditya Prakash, Nicholas Valler, David Andersen, Michalis Faloutsos and Christos Faloutsos. BGP-lens: Patterns and Anomalies in Internet-Routing Updates. *ACM SIGKDD Intl. Conference on Knowledge Discovery and Data Mining 2009, Paris. Acceptance Rate: 18%.*
- C64. C. Gokhale, N. Gupta, P. Kumar, L. V. S. Lakshmanan, R. Ng and B. Aditya Prakash. Complex Group-By Queries For XML. *IEEE ICDE Intl. Conference on Data Engg. 2007, Istanbul. Acceptance Rate: 19%.*

Refereed Workshops (student authors advised by me marked with *)

- W1. Jiaming Cui, Arash Haddadan, A S M Ahsan Ul Haque, Bijaya Adhikari, Anil Vullikanti and B. Aditya Prakash. Information Theoretic Model Selection for Accurately Estimating Unreported COVID-19 Infections. *MIDAS 2022, Washington DC.*
- W2. Ayush Chopra, Alexander Rodriguez*, Jayakumar Subramanian, Balaji Krishnamurthy, B. Aditya Prakash, Ramesh Raskar. Differentiable Agent-based Epidemiology. *ICML AI for Agent Based Modeling (AI4ABM) Workshop 2022, Baltimore MD.* (Received the Best Paper Award)
- W3. Pulak Agarwal* , Pranav Aluru* and B. Aditya Prakash. Real-time Anomaly Detection in Epidemic Data Streams. *ACM SIGKDD Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK) Workshop 2022, Washington DC.*
- W4. Vivek Anand* and B. Aditya Prakash. Modelling Healthcare Associated Infections with Hypergraphs. *ACM SIGKDD Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK) Workshop 2022, Washington DC.*
- W5. Sorour E Amiri*, Bijaya Adhikari*, John Wenskovitch, Alexander Rodriguez*, Michelle Dowling, Chris North and B. Aditya Prakash. NetReAct: Interactive Learning for Network Summarization. *NeurIPS Human and Model in the Loop Evaluation and Training Strategies (HAMLETS) Workshop 2020*

- W6. Alexander Rodriguez*, Nikhil Muralidhar, Bijaya Adhikari*, Anika Tabassum*, Naren Ramakrishnan and B. Aditya Prakash. Steering a Historical Disease Forecasting Model Under a Pandemic: Case of Flu and COVID-19. *NeurIPS Machine Learning in Public Health (MLPH) Workshop 2020*
- W7. Alexander Rodriguez*, Bijaya Adhikari*, Andres D. Gonzalez, Charles Nicholson, Anil Vullikanti, and B. Aditya Prakash. Using Connectivity Queries to Map Network States. *NeurIPS Artificial Intelligence and Humanitarian and Disaster Relief (AI + HADR) Workshop 2020, virtual.*
- W8. Alexander Rodriguez*, Bijaya Adhikari*, Naren Ramakrishnan, and B. Aditya Prakash. Incorporating Expert Guidance in Epidemic Forecasting. *ACM SIGKDD Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK) Workshop 2020, San Diego.*
- W9. Yiming Gu, Hala Mostafa, and B. Aditya Prakash. Latent Allocation Spatiotemporal Models For Indoor Human Mobility. *ACM SIGKDD Urban Computing Workshop (UrbComp) 2018, London.*
- W10. Huijuan Shao, K.S.M. Tozammel Hossain, Hao Wu, Maleq Khan, Anil Vullikanti, B. Aditya Prakash, Madhav Marathe and Naren Ramakrishnan. Forecasting the Flu: Designing Social Network Sensors for Epidemics. *ACM SIGKDD Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK) Workshop 2018, London.*
- W11. Bijaya Adhikari*, Yao Zhang*, Naren Ramakrishnan and B. Aditya Prakash. Distributed Representation of Subgraphs. *IEEE ICDM Data Mining Large Networks Workshop 2017, New Orleans.*
- W12. Abhishek Sharma and B. Aditya Prakash. Graphs for Malware Detection: The Next Frontier. *ACM SIGKDD Mining and Learning with Graphs Workshop 2017, Halifax.*
- W13. Bijaya Adhikari*, Yao Zhang* and B. Aditya Prakash. Condensing Temporal Networks using Propagation. *NetSci 2017, Indianapolis.*
- W14. Venkata Pavan Rangudu, Bijaya Adhikari*, B. Aditya Prakash and Anil Vullikanti. Using Partial Probes to Infer Network States. *ACM SIGKDD Mining and Learning with Graphs Workshop 2017, Halifax.*
- W15. Sangkeun Lee, Liangzhe Chen*, Sisi Duan, Supriya Chinthavali, Mallikarjun Shankar, and B. Aditya Prakash. URBAN-NET: A Network-based Infrastructure Monitoring and Analysis System for Emergency Management and Public Safety. *IEEE BigData-Big Data for Sustainable Development Workshop 2016, Washington DC.*
- W16. Sorour Amiri*, Liangzhe Chen* and B. Aditya Prakash. Segmenting Sequences of Node-labeled Graphs. *IEEE ICDM Data Mining Large Networks Workshop 2016, Barcelona.*
- W17. Ahsanur Rahman, Steve Jan*, Hyunju Kim, B. Aditya Prakash and T. M. Murali. Mining Unstable Communities from Network Ensembles. *IEEE ICDM Data Mining Large Networks Workshop 2015, Atlantic City.*
- W18. Xuetao Wei, Nicholas Valler, Michalis Faloutsos, Iulian Neamtii, B. Aditya Prakash and Christos Faloutsos. Smartphone Viruses Propagation on Heterogeneous Composite Networks. *IEEE Network Science Workshop 2013, West Point.*
- W19. B. Aditya Prakash, Michalis Faloutsos and Christos Faloutsos. Formalizing the BGP stability problem: patterns and a chaotic model. CMU-Technical Report. Preliminary Version in *IEEE INFOCOM NetSciCom Workshop, 2011.*
- W20. B. Aditya Prakash, Ashwin Sridharan, Mukund Seshadri, Sridhar Machiraju and Christos Faloutsos. Surprising Patterns and Scalable Community Detection in Large Graphs. *IEEE ICDM Large Scale Data Mining Workshop 2009, Miami.*

Released Software

- S1. Sisi Duan; Liangzhe Chen; B. Aditya Prakash; Supriya Chinthavali; Sangkeun Lee. The URBANNET toolkit: a set of tools, algorithms and web interfaces for analysis, simulation, modeling and prediction for Critical Infrastructure Systems. Released through Virginia Tech Intellectual Properties and ORNL. VT IP disclosure number: VTIP 18-090. March 2018.

PATENTS

- P1. Ashwin Sridharan, Mukund Seshadri, James Schneider, B. Aditya Prakash, Christos Faloutsos and Sridhar Machiraju. US Patent 9,491,055. Determining User Communities in Communication Networks. (granted, November 2016)
- P2. B. Aditya Prakash, Alice Zheng, Jack Stokes, Eric Fitzgerald, Theodore Hardy. US Patent 8,805,839. Analysis of Computer Network Activity by Successively Removing Accepted Types of Access Events (granted, August 2014.)

GRANTS

1. Centers for Disease Control (subcontract to UVA/JHU). *In silico Randomized Control Trial Framework for Assessing Infection Control and Prevention Interventions in the Hospital*. PI: Prakash (GT Part). Amount: \$35,000. Duration: 2023-2024.
2. Centers for Disease Control (subcontract to UVA/JHU). *HAI Surveillance and Control in a Clinical Setting*. PI: Prakash (GT Part). Amount: \$35,000. Duration: 2023-2024.
3. Meta Research Gift. *Accurate and Uncertainty-Aware Long-Term Time-Series Forecasting via Relational and Multi-View Spatiotemporal Modeling*. PI: Prakash. Amount: \$50,000. (unrestricted funds).
4. NSF CCF. *PIPP Phase I: BEHIVE - BEHavioral Interaction and Viral Evolution for Pandemic Prevention and Prediction*. PI: Prakash (Co-PIs from Georgia Tech, MIT, Michigan, Mayo Clinic and UGA). Amount: \$1,000,000. Duration: 2022-2024.
5. Dow Chemical. *Advanced deep learning methods for time series forecasting*. PI: Prakash. Amount: \$630,000. Duration: 2022-2026.
6. Centers for Disease Control (subcontract to UVA). *Assessing Infection Control in the Hospital*. PI: Prakash. Amount: \$15,000. Duration: 2021-2022.
7. Facebook Faculty Gift 2021. PI: Prakash. Amount: \$50,000 (unrestricted funds).
8. NSF IIS. *Principled Uncertainty Quantification in Deep Learning Models for Time Series Analysis*. PI: Zhang and Co-PI: Prakash and Yao. Amount: \$1,000,000 (personal share = 33%). Duration: Sept 21 - Aug 24.
9. NSF CCF. *National Symposium on PRedicting Emergence of Virulent Entities by Novel Technologies (PREVENT)*. PI: Prakash. Amount: \$119,495. Duration: Feb-Aug 2021.
10. Centers for Disease Control (subcontract to UVA/JHU). *In silico Randomized Control Trial Framework for Assessing Infection Control and Prevention Interventions in the Hospital*. PI: Prakash (GT Part). Amount: \$60,000. Duration: 2020-2022.
11. Oak Ridge National Laboratory. *New Methods for Smart Cities and UrbanNet infrastructure*. PI: Prakash. Amount: \$87,000. Duration: 2020-2021.
12. NSF IIS. *Detecting and Controlling Network-based Spread of Hospital Acquired Infections*. PI: Prakash. Amount: \$1,200,000. Duration: 2020-2023.
13. NSF IIS. *RAPID: Using Phylodynamics and Line Lists for Adaptive COVID-19 Monitoring*. PI: Prakash. Amount: \$100,000. Duration: 2020-2021.
14. NSF Expeditions in Computing. *Global Pervasive Computational Epidemiology*. PI: Prakash (GT part). Amount: \$10M (total). Duration: 2020-2025.
15. College of Engineering/CS Research and Equipment grant. PI: Prakash. Amount: \$50,000. Duration: 2018-2023.
16. VT OVPRI International Travel Grant. Amount: \$1,700. Duration: 2018-2019.

17. Oak Ridge National Laboratory. *ASTRO on Energy Optimization and Modeling*. Amount: \$20,000. Duration: May - Aug, 2019.
18. NSF CAREER. *Bridging the Data-Model Gap—Leveraging Surveillance for Propagation Mining over Networks*. PI: Prakash. Amount: \$550,000. Duration: Apr 2 2018-June 2023.
19. Oak Ridge National Laboratory. *Designing interactive systems for Critical Infrastructure Analysis*. PI: Prakash. Amount: \$32,000. Duration: April - Sept, 2018.
20. NSF NRT-DESE. *UrbComp: Data Science for Modeling, Understanding and Advancing Urban Populations*. PI: Ramakrishnan and others. Senior Personnel: Prakash. Amount: \$2,999,091. Duration: 09/01/15-08/31/20.
21. Facebook Faculty Gift Award 2015. Amount: \$25,000 (unrestricted funds).
22. NEH/DFG Bilateral Digital Humanities Program. *Tracking the Russian Flu in U.S. and German Medical and Popular Reports, 1889-1893*. PI: Ewing (History, VT). co-PI: Prakash. Amount: \$175,000. Duration: 2016-2019.
23. Oak Ridge National Laboratory. *Mining Composite Inter-dependent Networks*. PI: Prakash. Amount: \$100,000. Duration: 2015-2017.
24. NSA Science of Security (subcontract to UMD). *Human-behavioral Modeling of Cyber-vulnerability*. PI: Prakash (VT part). Amount: \$315,000 (VT part) Total: \$4M. Duration: 2014-2017.
25. NSF IIS. *Immunization in Influence and Virus Propagation on Large Networks*. PI: Prakash. Amount: \$88,821. Duration: 2013-2015.
26. VT Provost's Office Junior Faculty Grant. Amount: \$1,500. Duration: Mar 2014-Mar-2016.
27. Amazon Web Services (AWS) Teaching Grant. Amount: \$20,000 credits for my classes CS6604, CS5614 and CS4604.

TEACHING

Instructor

AT GEORGIA TECH

- ◇ **CSE 8803 IUC, Introduction to Urban Computing** (Graduate, Enrollment: 30, College of Computing). (Spring 2023)
- ◇ **CSE 8803 EPI, Data Science for Epidemiology** (Graduate, Enrollment: 40-60, College of Computing). (Fall 2020, Fall 2021, Fall 2022, Fall 2023)
- ◇ **CSE 6740 CDA, Computational Data Analytics** (Graduate, Enrollment: 200, College of Computing). (Fall 2021)

AT VT

- ◇ **CS 5834 Intro. to Urban Computing** (Graduate, Enrollment: 60, Computer Science Department). (Fall 2019)
- ◇ **CS 5525/STAT 5525 Data Analytics I** (Graduate, Enrollment: 100, Computer Science Department). (Spring 2018, Fall 2018)
- ◇ **CS 3114 Data Structures and Algorithms** (Undergraduate, Enrollment: 70, Computer Science Department). (Fall 2016)
- ◇ **CS 5614 (Big) Data Management Systems** (Graduate, Enrollment: 60, Computer Science Department). (Fall 2014, Spring 2017, Spring 2019)
- ◇ **CS 6604 Data Mining Large Networks and Time-Series** (Graduate, Enrollment: 30, Computer Science Department). (Fall 2013, Fall 2015, Fall 2017)
- ◇ **CS 4604 Introduction to Database Management Systems** (Undergraduate, Enrollment: 35-45, Computer Science Department). (Spring 2013, Spring 2014, Spring 2015, Spring 2016, Fall 2018)

Guest Lectures

- ◇ **CS 1944 Sophomore Seminar** (Computer Science Department, VT). Lecture: Big Data and Machine Learning. Instructor: Prof. Cal Ribbens. (2015)
- ◇ **CS 5834 Urban Computing** (Computer Science Department, VT). Lecture: Urban Computing and Computational Epidemiology. Instructor: Prof. Naren Ramakrishnan. (2015)
- ◇ **CEE-504 Info. Tech. in Construction** (Civil and Environmental Engineering Department, VT). Lecture: Big Data: Dynamical Processes on Networks. Instructor: Prof. Sunil Sinha. (2012)
- ◇ **CS-6604 Social Media Analytics** (Computer Science Department, VT). Lecture: Information Diffusion. Instructor: Prof. Naren Ramakrishnan. (2012)
- ◇ **15-826 Multimedia Databases and Data Mining** (Machine Learning Department, CMU). Lecture: Virus/Influence Propagation. Instructor: Prof. Christos Faloutsos. (2011)
- ◇ **47-867 Social Network Analysis** (Tepper School of Business, CMU). Lecture: Epidemic Thresholds. Instructor: Prof. R. Ravi. (2010)

Teaching Assistant

- ◇ **15-451 CMU Undergraduate Algorithms by Prof. Avrim Blum and Prof. Manuel Blum:** Was the senior TA, held weekly recitations, graded assignments, held office hours etc.
- ◇ **15-415 CMU Database Applications by Prof. Christos Faloutsos:** Designed and graded assignments, held office hours etc.

STUDENT
ADVISING

◇ **Ph.D. Students**

1. Shangqing Xu. CSE, Georgia Tech. (Expected 2029).
2. Haoxin Liu. ML, Georgia Tech. (Expected 2028).
3. Sayan Sinha. (co-advised with Prof. Joy Arulraj). CS, Georgia Tech. (Expected 2028).
4. Zhiyuan (Leo) Zhao. ML, Georgia Tech (Expected 2027).
5. Sungjun Cho. CS, Georgia Tech (Expected 2026, on personal leave).
6. Harshavardhan Kamarthi. ML, Georgia Tech (Expected 2025).
7. Jiaming Cui. CS, Georgia Tech (Proposed: October 2023, Expected 2024).
8. Alexander Rodriguez. CS, Georgia Tech (Proposed: September 2022, Expected Summer 2023. First Employment: Asst. Professor, CSE, University of Michigan-Ann Arbor).
9. Anika Tabassum. CS, VT (Proposed: October 2020. Defense: September 2021. First Employment: Oak Ridge National Laboratory) (NSF Urban Computing Fellow)
10. Stacey Clifton. Sociology, VT (co-advised with John Ryan). (Defense: May 2020. First Employment: Asst. Professor, Sociology, Radford University)
11. Bijaya Adhikari. CS, VT (Proposed: April 2019, Defense: April 2020. First Employment: Asst. Professor, CS, University of Iowa)
12. Sorour Ekhtiari Amiri. CS, VT (Proposed: August 2018, Defense: April 2019. First Employment: Google.)
13. Liangzhe Chen. CS, VT (Proposed: August 2017, Defense: March 2018. First Employment: Pinterest.)
14. Yao Zhang. CS, VT (Proposed: January 2017, Defense: September 2017. First Employment: Asst. Professor, CS, University of Memphis, Tennessee)

◇ **M.S., Undergraduate and High School Students**

1. Aditya Sasanur. (BS+MS in CS, Georgia Tech, Graduated: 2024).
2. Megha Sharma. (MS in CS, Georgia Tech, Graduated: 2024).
3. Vivek Anand. (MS in CS, Georgia Tech, Graduated: 2023).

4. Gautham Gururajan. (MS in CSE, Georgia Tech)
5. Jiajia Xie. (MS in CSE, Georgia Tech, Graduated: 2021).
6. Xinfeng Xu. Physics PhD (MS in CS, VT, Graduated: 2019. Thesis was the winner of Best MS Thesis in CS award).
7. Shashidhar Sundereisan. (MS in CS, VT, Graduated 2014. Thesis was selected as the CS nominee for VT Graduate School's William Preston Society Outstanding Thesis award)
8. Benjamin Wang. (MS in CS, VT, Graduated 2014.)
9. Rishi Raman. (BS in CS, Expected: 2025).
10. Vikranth Keerthipati. (BS in CS, Expected: 2025).
11. Srikar Balusu. (BS+MS in CS, Expected: 2024).
12. Suchet Sapre (BS in CS, Expected: 2022).
13. Mira Patel. (BS in Physics and Aerospace Engg, Georgia Tech, Graduated: 2022).
14. Srikar Bulusu (BS in CS, Georgia Tech, Expected: 2025).
15. Pulak Agarwal. (BS in CS, Georgia Tech, Graduated: 2022).
16. Javen Ho. (BS in CS, Georgia Tech, Graduated: 2023).
17. William Edmisten. (BS in CS, VT, Graduated: 2019).
18. Priyanka Dangi. (BS in CS, VT, Expected 2021).
19. Pranav Aluru. as part of Work Based Learning Program (High School. Graduated: 2022).

◇ **Committee Membership**

Doctoral

1. Austin Wright, PhD Advisor: Prof. Polo Chau (CSE). Thesis Proposal: Spring 2024.
2. Lingkai Kong, PhD Advisor: Prof. Chao Zhang (CSE). Thesis Proposal: Fall 2023.
3. Qihang Yao, PhD Advisor: Prof. Constantine Dovrolis (SCS). Thesis proposal: Fall 2023.
4. Chen Liang, PhD Advisor: Prof. Tuo Zhao (ISYE). Graduated: Fall 2023.
5. Lei Zhang. PhD Advisor: Prof. C T Lu (VT). Graduated: Fall 2023.
6. Rachael Panik, PhD Advisor: Prof. Kari Watkins (CEE). Thesis Proposal: Summer 2023.
7. Hyungu Choi, PhD Advisor: Prof. Dimitri Marvis (Aero). Thesis Proposal: Summer 2023.
8. Irfan Al-Hussaini, PhD Advisor: Cassie Mitchell (BME). Graduated: Spring 2023.
9. Yanbo Xu. PhD Advisors: Prof. Chao Zhang (CSE) and Prof. Alexey Tumanov (SCS). Thesis Proposal: Fall 2022. Graduated: Spring 2023.
10. Kasimir Gilbert. PhD Advisor: Prof. Umit Catalyurek (CSE). Thesis Proposal: Fall 2021. Graduated: Spring 2022.
11. Michael Thomas. PhD Advisor: Prof. John Taylor (Georgia Tech, CEE). Quads: Spring 2022. Graduated: Spring 2024.
12. Daniel Muratore. PhD Advisor: Prof. Joshua Weitz (Georgia Tech, BIO). Graduated: Summer 2022.
13. Sharmin Afroze. Ph.D. Advisor: Prof. Daphne Yao (VT). Thesis Proposal: Spring 2022. Graduated: Fall 2022.
14. George Panagapolous. PhD. Advisor: Prof. Michalis Varziannis (Ecole Polytechnique). Graduated: Spring 2022.
15. Mohammad Elarnaoty. Ph.D. Advisor: Prof. Francisco Servant (VT). Thesis Proposal: Spring 2022.
16. Prathyush Sambaturu. Ph.D. Advisor: Prof. Anil Vullikanti (UVa). Thesis Proposal: Fall 2020. Graduated: Spring 2022.

17. Xianhao Jin. Ph.D. Advisor: Prof. Francisco Servant (VT). Thesis Proposal: Fall 2020. Graduated: Spring 2022.
18. Scott Freitas. Ph.D. Advisor: Prof. Polo Chau. Graduated: Fall 2021.
19. Harsh Shrivastava. Ph.D. Advisor: Prof. Srinivas Aluru. Graduated: Fall 2020.
20. Arinjoy Basak. Ph.D. Advisor: Prof. Anil Vullikanti (UVa).
21. Taha Hassan. Ph.D. Advisor: Prof. Scott McCrickard (VT).
22. David Betancourt. Ph.D. Advisor: Prof. Rafi Muhanna (Georgia Tech, CEE). Thesis Proposal: Summer 2020. Graduated: Spring 2021.
23. Siryui Yao. Ph.D. Advisor: Prof. Bert Huang (Tufts). Thesis Proposal: Spring 2020. Graduated: Spring 2021.
24. Sneha Mehta. Ph.D. Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Spring 2020. Graduated: Spring 2021.
25. Min Oh. Ph.D. Advisor: Prof. Liqing Zhang (VT). Thesis Proposal: Spring 2020. Graduated: Spring 2021.
26. Davon Woodard. Ph.D. Advisor: Prof. Tom Sanchez (Public and International Affairs, VT). Thesis Proposal: Spring 2019. Graduated: Summer 2021.
27. M. Raihanul Islam. Ph.D. Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Spring 2019. Graduated: Spring 2020.
28. Sarunya Pumma. Ph.D. Advisor: Prof. Wuchun Feng (VT). Thesis Proposal: Fall 2018. Graduated: Fall 2019.
29. Aditya Bharadwaj. Ph.D. Advisors: Prof. T. M. Murali (VT) and Prof. Kurt Luther (VT). Thesis Proposal: Fall 2018. Graduated: Summer 2020.
30. Yaser Keneshloo, Ph.D. Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Fall 2018. Graduated: Summer 2019.
31. Aditya Pratapa. Ph.D. Advisor: Prof. T. M. Murali (VT). Thesis Proposal: Spring 2018. Graduated: Spring 2020.
32. Qing Sun, Ph.D., Advisor: Prof. Dhruv Batra (VT). Thesis Proposal: Fall 2016. Graduated: Fall 2017.
33. Fang Liu, Ph.D., Advisor: Prof. Daphne Yao (VT). Thesis Proposal: Fall 2015. Graduated: Summer 2017.
34. Huijuan Shao, Ph.D., Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Fall 2015. Graduated: Fall 2016.
35. Bingsheng Wang, Ph.D., Advisor: Prof. Chang-Tien Lu (VT). Thesis Proposal: Spring 2015.
36. K. S. M. Tozammel Hussain, Ph.D., Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Spring 2015. Graduated: Fall 2016.
37. Pejman Khadivi, Ph.D., Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Fall 2015. Graduated: Fall 2016.
38. Marjan Momtazpour, Ph.D., Advisor: Prof. Naren Ramakrishnan (VT). Thesis Proposal: Fall 2015. Graduated: Spring 2016.
39. Sally Hamouda, Ph.D., Advisor: Prof. Cliff Shaffer (VT). Thesis Proposal: Fall 2014. Graduated: Fall 2015.
40. Md. Ahsanur Rahman, Ph.D., Advisor: Prof. T. M. Murali (VT). Thesis Proposal: Fall 2013. Graduated: Fall 2015.
41. Md. Hafeez, Ph.D., Advisor: Prof. Ali Butt (VT). Thesis Proposal: Spring 2013. Graduated: Summer 2014.

Masters

42. Colin Shea-Blymyer. M.S. Advisor: Prof. Benjamin Jantzen (VT). Graduated: Spring 2019.
43. Kanagaraj Nachimuthu Nallasamy. M.S. Advisor: Prof. Francisco Servant (VT). Graduated: Spring 2019.
44. Supriitha Patil. M.S. Advisor: Prof. Edward Fox (VT). Graduated: Spring 2019.
45. Zachary Burch. M.S. Advisor: Prof. Joseph Tront (VT). Graduated: Fall 2018.
46. Mitchell Wagner. M.S. Advisor: Prof. T. M. Murali (VT). Graduated: Fall 2018.
47. Rathna Senthil, M.S. Advisor: Prof. Lennwood Heath (VT). Graduated: Spring 2016.
48. Michael Cogswell, M.S. Advisor: Prof. Dhruv Batra (VT). Graduated: Spring 2015.
49. Md. Saquib Khan, M.S. Advisor: Prof. Anil Vullikanti (VT). Graduated: Fall 2014.
50. Rushi Kaw, M.S. Advisor: Prof. Madhav Marathe (VT). Graduated: Summer 2014.
51. Aravindan Mahendiran, M.S. Advisor: Prof. Naren Ramakrishnan (VT). Graduated: Spring 2014.

COMMUNITY ACTIVITIES

- ◇ **Member** - ACM, IEEE, ASEE, SIAM, MIDAS (Models of Infectious Disease Agent Study)
- ◇ **REUs, Tutorials and Summer Schools**
 1. *Integrating Topics from Computational Epidemiology into Computer Science Courses* (with Baltazar Espinoza, Lenwood Heath, Natarajan Meghanathan, S. S. Ravi, Aravind Srinivasan). Workshop Event at SIGCSE 2024, Portland, OR, March 2024.
 2. *Uncertainty Quantification in Deep Learning* (with Ling kai Kong, Harshavardhan Kamarthi, Peng Chen, Chao Zhang). Tutorial at SIGKDD 2023, Long Beach, August 2023.
 3. *Data Centric Epidemiological Forecasting* (with Alexander Rodriguez, Harshavardhan Kamarthi). Tutorial at AAAI 2023, Washington DC, February 2023.
 4. *Data Centric Epidemiological Forecasting* (with Alexander Rodriguez, Harshavardhan Kamarthi). Tutorial at ACM SIGKDD 2022, Washington DC, August 2022.
 5. *Data-driven Computational Methods for Disease Forecasting for Researchers and Practitioners* (with my students Alexander Rodriguez, Harshavardhan Kamarthi). Invited Tutorial session by Forecasting for Social Good Research Network, Cardiff University. November 2021.
 6. *Faculty Co-Organizer* (with Jacob Abernethy, Eric Schwartz and Bo Waggoner). COV-IDEaS Summer REU (held virtually), June-Aug 2020.
 7. *Networks for Fun, Profit and the Social Good*. Session at CTECH2 Summer Camp for High School Girls, CEED, VT, June 2019.
 8. *Data Mining Critical Infrastructure Systems—Models and Tools*. Tutorial at SDM, San Diego. April 2018.
 9. *Propagation and Data Mining: Models, Algorithms and Applications*. Tutorial at SDM, Houston. April 2017.
 10. *Propagation and Data Mining: Models, Algorithms and Applications*. Tutorial at SIGKDD, San Francisco. August 2016.
 11. *Propagation on Large Networks: Theory and Tools*. Tutorial at ECML-PKDD, Bristol. September 2012.
 12. *Understanding and Managing Cascades on Large Graphs*. Tutorial at VLDB, Istanbul. August 2012.
 13. *Virus Propagation on Large Networks: Theory and Tools*. MIDAS Summer Undergraduate Research School, UPitt. June 2012.
- ◇ **Keynotes, Invited Talks and Panels (Moderator or Participant)**
 1. *Cutting edge AI in Healthcare*. Panelist at Emory AI Health symposium. November 2023.

2. *AI for Epidemiology*. Invited Talk. University of Georgia. October 2023.
3. *Estimation of HAI Importation Rates Using a Neural Network and ABM Framework*. Talk. CDC MIND group. October 2023.
4. *Uncertainty in Time-series Forecasting*. Keynote. SIGKDD Workshop on Uncertainty Reasoning and Quantification in Decision Making. Long Beach. August 2023.
5. *Data+AI for Epidemiology*. Invited Talk. Case Western University. May 2023.
6. *New Methods for Robust Time-series Mining*. Invited Talk. Dow Chemicals. March 2023.
7. *New Methods for Robust Time-series Mining*. Keynote. NSF Emerging Data Science Methods for Complex Biomedical and Cyber Data. Augusta GA. March 2023.
8. *New ML models for Networks in Public Health and Beyond*. Keynote. AAAI Graphs and More Complex Structures for Learning and Reasoning Workshop. February 2023.
9. *New Methods for Robust Time-Series Forecasting*. Invited Talk. Meta DABI Summit. December 2022.
10. *New Methods for Robust Time-Series Forecasting*. Keynote. ICDM 17th Spatial and Spatio-Temporal Data Mining Workshop. November 2022.
11. *New Methods for Robust Time-Series Mining*. Invited Talk. Meta Forecasting Summit. November 2022.
12. *AI for Epidemiology*. Invited Talk. ORNL AI Workshop. October 2022.
13. *New Methods for Robust Time Series Forecasting*. Invited talk. Georgia Tech CSE Seminar. October 2022.
14. *New Methods for Robust Time Series Forecasting*. Keynote. SIGKDD Meta Infrastructure Data Science Faculty Workshop. August 2022.
15. *New Methods for Robust Time Series Mining*. Invited talk. Boise State Workshop on Data Science and Cybersecurity. August 2022.
16. *Data Considerations*. Invited talk and panelist. NSF PREPARE VO 'Scalable Computing for Pandemic Preparedness' Workshop. March 2022.
17. *Data+AI for Epidemics*. Invited talk and panelist. MIT NSF Data for Public Health Workshop. March 2022.
18. *Data Science and AI for Epidemic Response: Time-Series Forecasting and Network Interventions*. IIIT Delhi Seminar. February 2022.
19. *AI R&D for Disasters & Resiliency*. Plenary Keynote Panelist at the AI @ DOE roundtable. US DOE AI office. January 2022.
20. *AI and Pandemic Preparedness - Predictive Modeling and Pathogen Surveillance*. Indo-US Science and Technology Forum, US-India AI Initiative. Invited participant to closed roundtable. December 2021.
21. *Machine intelligence and the next pandemic: Are we ready?*. Panelist at AI-ML Systems Conference. virtual at IISc. Oct 22, 2021.
22. *Deep Learning Data-Driven Approaches for Epidemic Forecasting*. Keynote at NSF Emerging Data Science Methods for Complex Biomedical Data workshop. Augusta University, GA. Oct 14, 2021.
23. *AI and ML for Pandemic response*. Keynote at ACM SIGKDD Mining and Learning with Time-Series workshop (MILeTS). virtual, Aug 15, 2021.
24. *Deep Learning Data-Driven Approaches for Epidemic Forecasting: Case of COVID and Flu*. Society for Epidemiological Research Symposium 'Promise of Machine Learning for Public Health'. June 23, 2021.
25. *AI and ML for COVID response*. Global Health Innovators by MIT PathCheck Foundation. June 3, 2021.

26. *Data-driven methods for Forecasting and Interventions*. Panelist, 'Synergistic AI and Government Response to Tackle COVID-19' panel at 'AI in a Post COVID World' Symposium, Penn State. May 13, 2021.
27. *Network Interventions for Epidemics*. Northeastern University Machine Learning with Graphs. April 2021.
28. *Data Science and AI for Epidemic Response: Case Study in COVID19*. University of California, Riverside Department of Computer Science Colloquium Series. March 2021.
29. *AI Responses for COVID*, AAAI 2021 Special Panel Co-organizer and Moderator. Feb 2021.
30. *Data Science for Networks and Sequences*. Algorithms and Randomness Center GT ThinkTank Talk. Oct 2020.
31. *Deep Learning data-driven approaches for Epidemic Forecasting*. Data Science @ GT student organization. Oct 2020.
32. *Deep Learning data-driven approaches for Epidemic Forecasting*. IDEaS COVID REU Seminar, July 2020.
33. *Deep Learning data-driven approaches for Epidemic Forecasting*. UVA Global Computational Epidemiology Seminar Series, July 2020.
34. Panelist at *Using Machine Learning for COVID Panel* by ML@GT Center, Georgia Tech, June 2020.
35. *Learning Interactive Network Summaries*. Keynote talk at IEEE BigData Deep Graph Learning: Methodologies and Applications Workshop, Los Angeles, Dec 2019.
36. *Embeddings for Flu Forecasting (EpiDeep)*. CDC FluSight Workshop, Atlanta. Aug 2019.
37. *Critical Infrastructure Data Analytics: Models and Tools*. NSF Smart Grid Analytics Workshop, Atlanta. June 2019.
38. *Leveraging Propagation for Data Mining: From Influenza to Critical Infrastructures*. Georgia Tech., CSE Seminar Series. Nov 2018.
39. *Networks and Propagation for Fun, Profit and Social Good*. Walmart Labs, Santa Clara. Nov 2018.
40. *Networks and Propagation for Fun, Profit and Social Good*. University of Maryland, College Park, CLIP Colloquium Series. Oct 2018.
41. *Ongoing Data-driven AI/ML Revolution*. Invited Talk and Panelist. IIT Bombay Golden Jubilee Faculty Alumni Meeting (FAN), Stanford CA. Oct 2018.
42. *AI Panel*. Invited Participant. IIT Kharagpur—APLU Meet. Washington, DC. Sep 2018.
43. *Surveillance, Inference and Control of Hospital Acquired Infections*. NSF Smart Health Workshop, Arlington. Aug 2018.
44. *Leveraging Propagation for Data Mining: From Influenza to Critical Infrastructures*. CMU Heinz College, Pittsburgh. April 2018.
45. *Doctoral Forum*. Invited Participant. ICDM 2017, New Orleans. Nov 2017.
46. *Leveraging Propagation for Data Mining: Models, Algorithms and Applications*. United Technologies Research Center (UTRC), Hartford. Nov 2017.
47. *Leveraging Propagation for Data Mining: Models, Algorithms and Applications*. MLSIG Machine Learning Seminar, IISc. Bangalore. Jan 2017.
48. *Leveraging Propagation for Data Mining: Models, Algorithms and Applications*. CSE, IIT-Bombay. Mumbai. Dec 2016.
49. *Leveraging Propagation for Data Mining*. Social Computing Workshop, Army Research Lab. Adelphi. Sep 2016.
50. *Understanding, Predicting and Managing Behaviors using Propagation: From Flu-Trends to Cyber-security*. Fidelis Cybersecurity. Bethesda. Sep 2016.

51. *Understanding, Predicting and Managing Behaviors using Propagation: From Flu-Trends to Cybersecurity*. Facebook. Menlo Park. Feb 2016.
52. *Leveraging Information Theory for Mining Graphs and Sequences: Propagation to Segmentation*. Information Theory and Applications (ITA) Workshop. San Diego. Feb 2016.
53. *Understanding and Predicting Human Behavior using Propagation: From Flu-trends to Cybersecurity*. Keynote Talk at IEEE ICDM Behavior Analysis, Modeling, and Steering (BEAMS) Workshop. Atlantic City. Nov 2015.
54. *Making Diffusion Work for You—From Social Media to Epidemiology*. ORNL Annual Biomedical Science and Eng. Center Conference (BSEC). Oak Ridge. Aug 2015.
55. *Current and Future Challenges in Mining Large Networks*. Invited Panelist and talk. SDM Networks Workshop Panel. Vancouver, Canada. May 2015.
56. *Making Diffusion Work for you*. MIT Lincoln Labs Graph Exploitation Symposium. Cambridge. August 2014.
57. *Data Mining Networks and Time-Series for Fun and Profit*. VT ECE Summer Research Experience for Undergraduates. June 2014.
58. *Understanding and Managing Cascades on Large Graphs*. NEC Labs. Princeton. April 2014.
59. *Dynamical Processes for Cyber-Vulnerability*. ARO Workshop on Cyber Warfare: Building the Scientific Foundation. George Mason University, Fairfax. March 2014.
60. *Understanding and Managing Cascades on Large Graphs*. SIAM 2013 Conference at Oak Ridge National Lab, Oak Ridge. March 2013.
61. *Understanding and Managing Cascades on Large Graphs*. Virginia Tech., CS Friday Series. November 2012.
62. *Influence Propagation on Large Graphs*. Massive Graphs: Big Compute meets Big Data, SIAM Annual Meeting, Minneapolis. July 2012.
63. *Propagation on Large Networks*. Network Science - CTA INARC Seminar. May 2012.
64. *Dynamical Processes on Large Networks*. Army Research Lab, Adelphi, Seminar. April 2012.
65. *Dynamical Processes on Large Networks*. University of Maryland, College Park, CS Seminar. April 2012.
66. *Propagation on Large Networks*. University of Pittsburgh, Department of Public Health, MIDAS Seminar. Pittsburgh. April 2012.
67. *Dynamical Processes on Large Networks*. Google Research, New York City, Research Talk. April 2012.
68. *Dynamical Processes on Large Networks*. Virginia Tech., CS Seminar. March 2012.
69. *Dynamical Processes on Large Networks*. AT&T Research, Florham Park, Seminar. March 2012.
70. *Epidemic Thresholds, Immunization and BGP*. University of Michigan, Ann Arbor, Information Seminar. April 2010.
71. *Virus Propagation in Time-Varying Networks: Theory and Immunization Algorithms*. BBN, Cambridge. INARC/NS-CTA Meeting. September 2010.
72. *Virus Propagation in Time-Varying Networks: Theory and Immunization Algorithms*. CMU-Yahoo! Machine Learning Seminar. October 2010.
73. *BGP-lens: Patterns and Anomalies in Internet-Routing Updates*. ECE Parallel Data Laboratory Retreat. October 2009.

◇ News/Media Coverage (partial list)

1. New Hybrid Machine Learning Framework Extends Range of Accurate Epidemic Forecasting. Bryant Wine, Georgia Tech Research News. February 10, 2023.
2. The future of time-series forecasting with B. Aditya Prakash. Meta Research Blog. February 2, 2023.

3. Researchers to Lead Paradigm Shift in Pandemic Prevention with NSF Grant. Bryant Wine, Georgia Tech Research News. September 22, 2022.
4. New DomAIns, Science before the Storm NSF PREPARE Podcast (on Apple/Spotify). November 2021.
5. Embracing Socratic Paradox May Lead to More Reliable Predictions from AI Models. Ben Snedeker, Georgia Tech COC, November 19, 2021.
6. Facebook Data for Good Case Studies. Facebook, January 2021.
7. Undergraduates Design Covid Forecasting Dashboard. Tess Malone, Georgia Tech College of Computing News. January 19, 2021.
8. Georgia Tech Research Team Wins Two Covid-19 Challenges in One Week. Kristen Perez, Georgia Tech CSE, January 7, 2021.
9. C3.ai Announces COVID-19 Grand Challenge Winners. Financial Post, December 8, 2020.
10. Preparing for Emergency Response with Partial Network Information. Kristen Perez, Georgia Tech CSE, December 11, 2020.
11. Massive data initiatives and AI provide testbed for pandemic forecasting. Cormac Sheridan, Nature Biotechnology, September 7, 2020.
12. Why Modeling the Spread of COVID-19 Is So Damn Hard. Matthew Huston, IEEE Spectrum, September 22, 2020.
13. COVID Numbers Situation (TV Interview). Justin Farmer, WSBTV Evening News. Aug 13, 2020.
14. Scientists Collaborating on New Data-Driven Approach to Covid-19 Intervention. Kristen Perez, Georgia Tech CSE (also featured in Georgia Tech Responding to COVID homepage), July 20, 2020.
15. Georgia's new COVID-19 cases still hitting daily record levels (TV Interview). Faith Abubey, 11Alive Evening News, Atlanta. June 29, 2020.
16. Georgia Tech Professor Leads Multi-Institution Team in Combatting Hospital Acquired Infections. Kristen Perez, Georgia Tech CSE. June 26, 2020.
17. Team Using Deep Learning to Forecast Pandemic in the U.S. Kristen Perez, Georgia Tech CSE (also featured in Georgia Tech Responding to COVID homepage), June 1, 2020.
18. Are Distancing Measures Worth the Sacrifice? See for yourself. Jill Hodges, UC Berkeley CDSS News. May 1, 2020.
19. New Professor Uses Networks to Connect the Dots for Social Good. Kristen Perez, Georgia Tech CSE, March 30, 2020.
20. Virginia Tech Computer Scientist Honored by Institute of Electrical and Electronics Engineers. India West newspaper. June 4, 2018.
21. Virginia Tech professor 10 Young Stars to Watch in AI. CBS WNVSTV. May 2018.
22. B. Aditya Prakash on IEEE Magazine's List of 10 Young Stars to Watch in Artificial Intelligence. IEEE. May 18, 2018.
23. B. Aditya Prakash receives NSF CAREER award to find data-driven network strategies to enhance national security and public health. Lindsey Haugh, Virginia Tech Daily News. February 27, 2018.
24. Nations Ranked on Their Vulnerability to Cyberattacks. ACM TechNews, March 11, 2016.
25. India Among Most Vulnerable Nations to Cyber-Attacks: Study. NDTV (New Delhi Television Ltd.) March 10, 2016.
26. Nations ranked on their vulnerability to cyberattacks. Science Daily News. March 9, 2016.
27. Russian flu project wins funding from National Endowment for the Humanities. Jean Elliot, Virginia Tech Daily News. September 28, 2015.

◇ **Conference Organization**

1. **Program co-chair**, IEEE/ACM ASONAM 2023, Morocco.
2. **Invited Lead PI Organizer** on behalf of the NSF (with John Yin, Paul Torrens and Krista Wigginton) National Symposium on PRedicting Emergence Of Virulent Entities By Novel Technologies (PREVENT), Feb 22-23, 2021, Virtual.
3. **Focus Co-chair**, AAAI 2021 AI Responses for COVID track, Virtual.
4. **Proceedings co-chair**, ACM SIGKDD 2020, San Diego.
5. **Organizer/Chair**, SDM 2021 and SDM 2020, DRSE (Data Science for Retail and E-commerce) Workshops.
6. **Program Committee vice chair**, IEEE BigData 2019, Los Angeles.
7. **Tutorial Chair**, SDM 2019, Calgary.
8. **Organizer/Chair**, SIGKDD 2020, SIGKDD 2019 and SIGKDD 2018 epiDAMIK (Epidemiology meets Data Mining and Knowledge discovery) Workshops, San Diego, Anchorage and London. Was selected as part of 'Health Day @ KDD'. Part of General Committee in epiDAMIK@SIGKDD 2021.
9. **Publicity Chair**, SDM 2016, Miami.
10. **Demo Chair**, IEEE ICDM 2015, Atlantic City.

◇ **Area Chair/Senior Program Committee**

1. 2024: SIGKDD, AAAI
2. 2023: SDM, WWW, AAAI, SIGKDD
3. 2022: SIGKDD, AAAI, SDM
4. 2021: SDM, PAKDD, SIGKDD, AAAI
5. 2020: SDM, AIME (Intl Conf. on AI in Medicine) Senior PC,
6. 2019: SDM, AAMAS
7. 2018: SDM, WSDM
8. 2017: SIGKDD, SDM
9. 2016: WSDM
10. 2015: CIKM

◇ **Program Committee member**

Conferences

1. 2021: WWW
2. 2020: WWW, NetSci, ICDM
3. 2019: WWW, HiPC
4. 2018: WWW, SIGKDD, ASONAM
5. 2017: WWW, WSDM, COMAD (India SIGMOD)
6. 2016: SDM, WWW, SIGKDD, ASONAM, ICDM, CoDS (India KDD), IC2S2
7. 2015: SDM, WSDM, SIGKDD, ICDM, ASONAM
8. 2014: SDM, WWW, SIGKDD, ICDM, ASONAM, IEEE BigData, ECML/PKDD, ICWSM, SIGMOD (Demo), ACM SAC, IEEE R10 HTC
9. 2013: SDM, IJCAI, AAAI, IEEE BigData, ECML/PKDD

Workshops

1. KDD 2020 MLHat (ML for Security)
2. KDD 2019 Mining and Learning on Graphs, Machine Learning for Security

3. KDD 2018 Mining and Learning on Graphs
4. KDD 2017 Mining and Learning on Graphs
5. VLDB 2016 SoDAM Workshop
6. SC 2016 HPGDMP Workshop
7. SocInfo 2016 Workshop on Social Influence
8. SIGKDD 2015 Workshop on Interactive Data Analytics and Exploration
9. WWW 2014 Big Graph Mining Workshop
10. SDM 2014 Optimization Methods for Anomaly Detection
11. SDM 2014 Mining Large Networks
12. SIGKDD 2014 Interactive Data Exploration and Analysis
13. SocInfo 2014 Workshop on Social Influence
14. SDM 2015 Mining Large Networks
15. ICDM 2011 Data Mining Technologies for Computational Creative Intelligence

◇ **Journal Editor/Editorial Board Member**

1. 2021-: Editorial Board, IEEE Intelligent Systems.
2. 2021-: Associate Editor, ACM Transactions on Intelligent Systems (TIST).
3. 2020-: Action Editor, Data Mining and Knowledge Discovery Journal (DAMI).
4. 2020-2021. Editor, Frontiers of Big Data Special Issue (Deep Learning Graphs).
5. 2016-2019: Editorial Board Member, Data Mining and Knowledge Discovery Journal (DAMI).

◇ **Journal Reviewer**

TKDE=Trans. on Knowledge and Data Engg.; TKDD=Trans. on Knowledge Discovery from Data; DAMI=Data Mining and Knowledge Discovery Journal; TNET=Transactions on Networking; ToIT=Transactions on Information Theory; JSAC=Journal on Selected Areas in Communication; TOIS=Trans. on Information Systems; JMLR=Journal of Machine Learning Research; TNSE: Transactions on Network Science and Engineering; TMIS: Transactions on Management Information Systems; TWEB=Trans. on the Web; HEALTH= Trans. on Computing for Healthcare.

1. 2021: ACM TKDD, IEEE TKDE, Royal Society Interface Focus, Proceedings of Royal Society A, TPAMI
2. 2020: ACM TKDD (twice), KAIS, ACM HEALTH, ACM TWEB, IEEE TKDE
3. 2019: IEEE TKDE, Nature Communications, ACM TKDD, ACM TMIS
4. 2018: IEEE TKDE, IEEE/ACM TNET, IEEE TNSE, Nature Digital Medicine, ACM TKDD
5. 2017: IEEE TKDE (thrice), ACM TKDD, Nature Scientific Reports, ACM Computing Surveys, DAMI, Science
6. 2016: IEEE TKDE (twice), ACM TKDD (twice), DAMI
7. 2015: IEEE TKDE (thrice), DAMI (twice), ACM TOIS, VLDB Journal
8. 2014: IEEE TKDE, IEEE ToIT, Computers and Security, ACM TKDD, DAMI
9. 2013: IEEE/ACM TNET, IEEE TKDE, ACM TKDD, JIIS, DAMI, VLDB Journal, DAMI, SIAM Journal on Applied Dynamical Systems, Networking Science, Information Processing Letters (IPL), Social Network Analysis Journal, Network Science, JMLR
10. 2012: DAMI, IEEE TKDE, IEEE JSAC, Advances in Complex Systems Journal, Europhysics Letters (EPL), Journal of Computer and System Sciences (JCSS)

◇ **Proposal and Panel Reviews**

1. DOE Review panel. 2023, 2024.
2. NSF Review Panelist CISE: 2013 (once), 2014 (twice), 2016 (once), 2017 (once), 2019 (once), 2020 (twice), 2021 (thrice), 2022 (once).
3. NCBioTech Flash Grant Program Ad-hoc Reviewer (2020)
4. C3AI.DTI COVID-19 Grant Proposal program committee (2020).
5. NSF Ad-hoc Proposal Reviewer. 2019 (once).
6. Referee for a proposal to the Army Research Office (ARO) (2017)
7. Referee for a proposal to the German Minerva ARCHES program (2016)

◇ **University Service**

AT GEORGIA TECH

1. GT: EVPR Steering Committee for health & wellbeing of people and societies initiative. (2023-2024)
2. GT: EVPR Commission on Research Next: Strategy Development and Implementation (2021)
3. IDEaS: Director of External Engagement (2020, 2021, 2022, 2023, 2024)
4. CSE/COC: Faculty and Students Awards Committee (2022, 2023)
5. CSE: Chair of Graduate Admissions Committee (2020, 2021, 2022)
6. CSE: Member Graduate Admissions Committee (2023)
7. CSE: School Chair Advisory Committee (2020, 2021) and Chair of committee (2022, 2023)
8. CoC: College of Computing Dean's Advisory Council (2022, 2023)
9. CSE: Reappointment, Promotion and Tenure (RPT) Committee (2020, 2021, 2022, 2023)
10. CSE: School Strategic Vision Ad-hoc Committee (2020)
11. CSE: PhD Quals 'Data Science' area (2020, 2021, 2022)
12. CSE/SCRIP: Ad-hoc Joint Tenure Committee (2021)
13. CSE: Formal Mentor, Yunan Luo (2022-24)
14. GTPE National Search for Academic Director of FinTech (2020)
15. Sigma Xi Best MS thesis committee (2020, 2021)

AT VT

16. CS: Personnel Committee (2019)
17. CS: Graduate Program Committee (2018)
18. CS: Undergraduate Program Committee (2015-18)
19. CS: Faculty Search Committee (2014, 2015 (two searches), 2016, 2017, 2018)
20. College of Science: Computational Modeling and Data Analytics Colloquium Committee (2014-15)
21. CS: Ph.D. Qualifiers Committee (2013, 2014, 2015)

◇ **External Reviewer** (several times): EDBT, VLDB, WWW, KDD, ICDM, SIGMOD, ICWSM

◇ **Organizer DB-Seminar** CMU (2010-2012): Organized the Database Seminar at CMU.

◇ **Dataset Manager** CMU (2008-2011): Managed the data repository of the DB-group.

◇ **Student Contact** CMU (2008-2011): Contact for new students admitted to the Department.

◇ **Student Mentor** IGSA@CMU (2010-2011): Mentored newly admitted Indian students of various departments in CMU. Helped them with academic and cultural issues.

- ◇ **Student Mentor** CSE, IIT Bombay (2006): Mentored sophomores of the CSE Dept. by guiding them on academic issues and helping them convey their difficulties to the faculty.
- ◇ **System Administrator** Hostel Six, IIT Bombay (2004-2005): Maintained a network consisting of all the machines (Linux, Windows and Mac based) in the dorm. Work involved setting up NFS/NIS Servers, Proxy, FTP, DNS and handling user accounts.
- ◇ **Head Boy** Delhi Public School, Bhilai.

EXTRACURRICULAR
ACTIVITIES

- ◇ Am a **certified Tabla Visharad (Classical Tabla Scholar)** from the well-known Indira Kala Sangeet Vishwavidyalaya, Khairagarh, C.G., India after successful completion of the 6-year theory+practical course (1995-2000). Secured **Distinction** in practical in 4th year. Performed solo in functions in school, college and outside. (Tabla is an Indian musical instrument)
- ◇ Was a regular member of school and house Cricket, Dramatics, Debating and Quizzing teams.