Anika Tabassum
Email: anikat1@vt.edu
Web: `http://people.cs.vt.edu/anikat1/`
Address: 900 North Glebe Rd
Arlington, VA- 22203

RESEARCH INTEREST

My research area lies broadly at the intersection of explainability and domain adapted machine learning in *Critical Infrastructure* and *Urban* domain. I explore data challenges, questions, and problems in emergency management, energy, and epidemiology sectors and how to solve them by developing or adapting existing machine learning models and algorithms.

EDUCATION

Ph.D. Student, *Computer Science* 2017 - Present
Discovery Analytic Center, Virginia Tech, Arlington, VA 22203
Affiliated, College of Computing, Georgia Institute of Technology
CGPA: 3.80 (All courseworks completed)
Advisor: Prof. B. Aditya Prakash

Bachelor in Science, *Computer Science and Engineering* 2011 - 2016
Bangladesh University of Engineering and Technology
Dhaka, Bangladesh

PUBLICATIONS **Referred Journals & Conferences**

1. 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. May 2020.
2. Anika Tabassum and B. Aditya Prakash. Rationalizing time-series segmentations. [in submission].
3. 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. ACM SigKDD Explorations Vol. 21 Issue 2 December 2019.
4. Anika Tabassum, Supriya Chinthavali, Sangkeun Lee, Liangzhe Chen, B. Aditya Prakash. Urban-Net: A System to Understand and Analyze Critical Infrastructure Networks for Emergency Management. ACM SIGKDD 2019.
5. Supriya Chinthavali, Varisara Tansakul, Sangkeun Lee, Anika Tabassum, Jeff-Munk, Jan Jakowski, Michael Starke, Teja Kuruganti, Heather Buckberry, Jim-Leverette. Quantification of Energy Cost Savings through Optimization and Control of Appliances within Smart Neighborhood Homes.ACM International Workshop On Urban Building Energy Sensing, (UrbSys), 2019
6. Anika Tabassum, Sukarna Barua, Tanzima Hashem and Tasmin Chowdhury. Dynamic Group Trip Planning Queries in Spatial Database. SSDMB 2017.
7. A. Tabassum, M. Hasan, S. Ahmed, R. Tasmin, D. Abdullah and T. Musharrat. University Ranking Prediction System by Analyzing Influential Global Performance Indicators. KST 2017.
8. S. Ahmed, A. S. M. L. Hoque, M. Hasan, R. Tasmin, D. M. Abdullah and A. Tabassum. Discovering knowledge regarding academic profile of students pursuing graduate studies in world's top universities.IWCI 2016.

INVITED ARTICLE

Anika Tabassum, Supriya Chinthavali, Liangzhe Chen, and B. Aditya Prakash. Data Mining Critical Infrastucture Systems: Models and Tools. IEEE Intelligent Informatics Bulletin, 2018

HONORS & AWARDS

- NSF Urban Computing Fellowship Award#1545362, 2019-21
- Travel award SIGKDD, 2019, 2020
- Best Undergraduate Poster Award, 2016
- Best Database Project Award, 2014
- Travel grant award in Grace Hopper Celebration, Houston, Texas, 2015
- Travel grant award in Grace Hopper Celebration India, 2014
- Bangladesh University of Engineering & Technology Dean Scholarship, 2013, 2016

RESEARCH EXPERIENCE

Lab Research Spring 2018-Present

- *Critical Infrastruture Analysis* *July 2018-Present*
  Collaborator: Oak Ridge National Lab, Departement of CS, Virginia Tech, and Georgia Tech
  Improve the interactive geographic information system EAGLE-I of US department of Energy that allows user to view nations energy infrastructure in map and obtain near real-time informational updates of critical infrastructure within one platform
- *CDC Covid-19 Forecasting Challenge* *March 2020-Present*
  Team: Georgia Tech (DeepCovid)
  Predict hospitalizations and mortality for Covid-19 with a data driven deep-learning model. I contribute mostly in the data collection and preprocessing for the model.
- *TimeSeries Segmentation* *May 2018-August 2018*
  Identify significant and consequential events in multivariate timeseries to analyze and improve grid resiliency for future disaster
- *Dynamics of news cycle during global epidemics* *May 2018-Feb 2019*
  Collaborator: Departement of CS, Department of history Virginia Tech
  Analyze information flow of a global epidemic in newspapers and journals based on historical perspective

Research Internship @Oak Ridge National Laboratory Summer 2019

- *Smart Neighborhood*
  Understanding and developing optimization algorithms on saving energy usage in smart neighborhood

TALKS

***Urban-Net: A System to Understand and Analyze Critical Infrastructure Networks for Emergency Management**, KDD 2019*

TECHNICAL SKILLS

Programming Languages: Python, Matlab, Java, J2EE, J2SE, C++, HTML, Prolog
Database: MySQL, RDF Triplestore (Apache Jena, Fuseki).
Deep Learning Library: PyTorch
Operating Systems: Linux, Windows

SERVICES *External Reviewer: ICDM, KDD, WWW, SDM*

RELEVANT GRADUATE COURSES:

- *CS 6604: Advanced Deep learning*
- *CS 5614: Big Data Management Systems*
- *STAT 6474: Advanced Bayesian Statistics*
- *CS 5525: Data Analytics*
- *CS 5485: Urban Computing*
- *CS 5984: Deep Learning (Audit)*
- *CS 5604: Information Storage & Retrieval*
- *CS 5764: Information Visualization*

TEACHING

GTA: CS 2114, Software Design & Data Structure	*Fall 2018-Spring 2019*
GTA: CS 1114, Introduction to Software Design	*Fall 2017-Spring 2018*

EXTRA-CURRICULAR ACTIVITIES

- *Poster presentation, Public Transport Tracking to Combat Street Harassment with Crowd,UNWP World Congress Global Partnership for Young Women, Seoul, Korea, 2014*
- *Ethnographic study of the use and effect of technologies among family members of different social classes in Bangladesh, a project in human computer interaction, 2014*
- *Champion, Inter University Software Development Contest, Windows Phone Application Development, 2013*
- *4^th in Intra University Programming Contest, CSE festival, Bangladesh University of Engineering & Technology, 2013*