



for use in and out of the classroom to support collaborative projects.

*Networked Learning Initiatives Fellow* **2014 - 2015**  
Collaborated on physical, technical, and pedagogical design of a new learning studio. Supported and taught faculty development workshops pertaining to pedagogy, and also to technology in the classroom.

*Graduate Research Assistant* **2012 - present**  
Worked for Dr. Deborah Tatar on NSF-funded research (1018607) around microcoordination of interpersonal interaction.

*Graduate Research Assistant* **Summer 2012**  
Worked for Dr. Deborah Tatar on the NSF-funded project: *Integrating Computational Thinking Into Middle School Curriculum (CNS-1132227)*. Worked on overhauling and extending two applications that came to be known as CritiSearch (<http://test.critisearch.org/>) and Astronomical Proportions (<http://test.astronomicalproportions.org/>) to increase their pedagogical and research value.

*Instructor* **Spring 2012**  
Taught Introduction to (Guzdial's) Media Computation using Python. Fully responsible for the course. Created material for lectures, exams, homework assignments, and labs.

*College of Engineering Dean's Teaching Fellow* **2010 - 2013**  
Lead weekly workshops for introductory engineering courses. Duties included shared administrative responsibilities with faculty instructors, holding office hours, fielding of student inquiries, grading, and development of curricular materials and assessments.

- ENGE 1104: Digital Futures, Spring 2011.
- ENGE 1024: Engineering Exploration, Fall 2010.

*Graduate Research Assistant* **2009 - 2010**  
Worked for Dr. Clifford Shaffer on the AlgoViz.org project. Investigated building an online educational community for Algorithm Visualization.

*Graduate Teaching Assistant* **Fall 2009**  
Worked for Dr. Stephen Edwards, leading labs, grading, and holding office hours.

- CS 1114: Introduction to Software Design.

## PUBLICATIONS

### Book Chapters

- D. Tatar, S. Harrison, **M. Stewart**, C. Frisina, and P. Musaeus. *Computational Thinking: Research and Practice*, chapter Proto-computational Thinking: the Uncomfortable Underpinnings. Springer, in press

### Peer-Reviewed Conference Papers

- **Michael Stewart**, Deborah Tatar, and Steve Harrison. Sharing, communication, and music listening: A diary study of technology use by pre-teens and adolescents. In *Collaboration Technologies and Systems (CTS), 2016 International Conference on*, November 2016a
- Panagiotis Apostolellis, **Michael Stewart**, Chris Frisina, and Dennis Kafura. Rabbit escape: A board game for computational thinking. In *Proceedings of the 2014 Conference on Interaction Design and Children, IDC '14* (acceptance rate: 33%), pages 349–352, New York, NY, USA, 2014. ACM. ISBN 9781450322720. doi: 10.1145/2593968.2610489. URL <http://doi.acm.org/10.1145/2593968.2610489>

- Carlos Evia, **Michael Stewart**, Tim Lockridge, Siroberto Scerbo, and Manuel Perez-Quiñones. Structured authoring meets technical comics in techcommix. In *Proceedings of the 30th ACM international conference on Design of communication*, SIGDOC '12 (acceptance rate: 70%), pages 353–354, New York, NY, USA, 2012. ACM. ISBN 978-1-4503-1497-8. doi: 10.1145/2379057.2379123. URL <http://doi.acm.org/10.1145/2379057.2379123>.
- Clifford A. Shaffer, Monika Akbar, Alexander Joel D. Alon, **Michael Stewart**, and Stephen H. Edwards. Getting algorithm visualizations into the classroom. In *Proceedings of the 42nd ACM technical symposium on Computer science education*, SIGCSE '11 (acceptance rate: 34%), pages 129–134, New York, NY, USA, 2011. ACM. ISBN 978-1-4503-0500-6. doi: <http://doi.acm.org/10.1145/1953163.1953204>. URL <http://doi.acm.org/10.1145/1953163.1953204>.
- Alex Endert, Patrick Fiaux, Haeyong Chung, **Michael Stewart**, Christopher Andrews, and Chris North. Chairmouse: Leveraging natural chair rotation for cursor navigation on large, high-resolution displays. In *CHI '11 extended abstracts on Human factors in computing systems*, alt.CHI EA '11 (acceptance rate: 42%), New York, NY, USA, 2011. ACM.
- **Michael Stewart**, Jennifer Francois, Hongbo Zhang, and D. Scott McCrickard. Personastoryboard fusion: A hybrid approach to improving design artifacts. In *Proceedings of HCI International (the 14th International Conference on Human-Computer Interaction) on Human-Computer Interaction*, Berlin, Heidelberg, 2011. Springer-Verlag.

### Journal Articles

- Clifford A. Shaffer, Matthew L. Cooper, Alexander Joel D. Alon, Monika Akbar, **Michael Stewart**, Sean Ponce, and Stephen H. Edwards. Algorithm visualization: The state of the field. *Trans. Comput. Educ.*, 10:9:1–9:22, August 2010b. ISSN 1946-6226. doi: <http://doi.acm.org/10.1145/1821996.1821997>. URL <http://doi.acm.org/10.1145/1821996.1821997>.

### Workshops

- **Michael Stewart**, Deborah Tatar, and Steve Harrison. Background, slow, and inattentive interaction: Togetherness over connectedness. In Ellie Harmon, Matthias Korn, Ann Light, and Amy Volda, editors, *Proceedings of ACM DIS Workshop*, volume ACM DIS Workshop on Designing Against the Status Quo, 2016b.
- **Michael Stewart**, Deborah Tatar, and Steve Harrison. Colistening for local & remote collaborators. In Stacey Scott, T.C. Nicholas Graham, James Wallace, Mark Hancock, and Miguel Nacenta, editors, *Proceedings of ACM CSCW Workshop*, volume ACM CSCW Workshop on Supporting “Local Remote” Collaboration, 2015d.
- Ben Hanrahan, Ricardo Quintana-Castillo, **Michael Stewart**, and Manuel A. Pérez-Quiñones. Wikiatoms: Contributions to wikis as atomic units. In Gregorio Convertino and Antonietta Grasso, editors, *Proceedings of ACM Group Workshop*, volume ACM Group Workshop on Collective Intelligence, 2010. URL [http://www.parc.com/content/events/attachments/Hanrahan\\_revised\\_Group10.pdf](http://www.parc.com/content/events/attachments/Hanrahan_revised_Group10.pdf).
- Manas Tungare, Ben Hanrahan, Ricardo Quintana-Castillo, **Michael Stewart**, and Manuel A. Pérez-Quiñones. Collaborative human computation as a means of information management. In *(To appear in) Proceedings of the 2nd International Workshop on Collaborative Information Seeking at CSCW 2010*, 2010.

### Theses

- **Michael C. Stewart**. How private is private?: Effects of degree of information sharing on group ideation. Master’s thesis, Virginia Tech, <http://vtechworks.lib.vt.edu/handle/10919/23238>, 2013b.

### Posters

- **Michael Stewart**, Sarang Joshi, Aakash Gautam, and Deborah Tatar. Thoughtswap-ing for in-class discussions. In *Proceedings of the 9th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2017.
- **Michael Stewart**. Clock partners: Pre-assigned pairs for prompt participation. In *Proceedings of the 9th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2017a.
- **Michael Stewart**. Indexing into video with yousciber. In *Proceedings of the 9th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2017d.
- **Michael Stewart**. Scaffolding critical reading and constructive peer reviewing with collaborative document-annotation. In *Proceedings of the 9th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2017b.
- **Michael Stewart**. Tripvis: Geographically-situated reflection, sharing, and presentation for study abroad experiences. In *Proceedings of the 9th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2017c.
- **Michael Stewart**. A practical field that has no ethical implications. In *PSI Workshop: What should come next for HCI?*, 2016.
- **Michael Stewart**, Steve Harrison, and Deborah Tatar. Colisten: Reconceptualizing headphones as a shared space. In *Center for Human Computer Interaction 20th Anniversary*, 2015b.
- Adam Barnes, **Michael Stewart**, and Deborah Tatar. Thoughtswap. In *Center for Human Computer Interaction 20th Anniversary*, 2015.
- **Michael Stewart**, Joe Bruzek, and Deborah Tatar. Critisearch. In *Center for Human Computer Interaction 20th Anniversary*, 2015a.
- **Michael Stewart**, Steve Harrison, and Deborah Tatar. Colisten: Reconceptualizing headphones as a shared space. In *Virginia Science Festival*, 2015c.
- **Michael Stewart** and Deborah Tatar. Colisten: Sharing experience through co-consumption of media. In *VT ICAT Day*, 2015.
- **Michael Stewart**, Joe Bruzek, and Deborah Tatar. Critisearch. In *Virginia Science Festival*, 2014.
- Adam Barnes, **Michael Stewart**, and Deborah Tatar. Thoughtswap. In *Virginia Science Festival*, 2014.
- **Michael Stewart** and Deborah Tatar. Colisten: Sharing experience through co-consumption of media. In *VT ICAT Day*, 2014.
- A. C. Rumore, C. Byker, K. Dirk, L. Gay, E. Hodges, S. Kale, J. Lile, J. Moore, A. Nakamura, C. R. Smith, **M. Stewart**, A. Tawfik, S. Triantafyllidou, E. Williams, D. Kniola, S. Fowler, and K. DePauw. Global perspective: Rethinking the phd. In *Proceedings of the 4th Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2012.
- **M. Stewart**, E. Cephas, and F. Quek. Replacing the highlighter with music: Enabling people with visual impairment to annotate text with musical tones. In *Proceedings of the 26th Annual Graduate Research Symposium*. Virginia Tech Graduate Student Association, 2010a.
- **M. Stewart**, Seth Fox, and Kunal Mudgal. Tag! you're it!: Tagging, grouping, and metadata for files. In *Proceedings of the 26th Annual Graduate Research Symposium*. Virginia Tech Graduate Student Association, 2010b.
- C. A. Shaffer, S. H. Edwards, M. Akbar, A. J. D. Alon, and **M. Stewart**. Algoviz portal: Lowering the barriers for entry into an online educational community. In *Proceedings of the 2nd Annual Conference on Higher Education Pedagogy*. Virginia Tech Center for Instructional Development and Educational Research, 2010a.
- UNDER REVIEW, **Michael Stewart**, Deborah Tatar, Steve Harrison, and Carman Neustaedter. Co-designing for co-listening: Conceptualizing young people's social and music-listening practices. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17, 2017

INVITED TALKS

**Escuela Superior Politecnica del Litoral**

- **Michael Stewart.** Colisten and thoughtswap: Third paradigm from third lab. Guayaquil, Ecuador, November 2015. Escuela Superior Politecnica del Litoral.

**Virginia Tech Center for Human Computer Interaction**

- **Michael Stewart.** Microcoordination, togetherness, connectedness, and empathy. Center for Human-Computer Interaction at Virginia Tech, September 2013a.

PROFESSIONAL  
EXPERIENCE

**XEROX**, Meylan, France

*Research Intern*

**June, 2013 - September, 2013**

Worked on a sustainable commuting project designed to promote ride-sharing. Responsibilities included:

- synthesis of prior work on sustainable commuting and ride-sharing
- data collection to determine how well our pilot site corresponded to the findings in prior work
- interface and interaction design for the ride-sharing application
- development of the web application to support ride-sharing on a large, touch-enabled public display

**International Business Machines (IBM)**, Research Triangle Park, North Carolina USA

*Software Developer*

**January, 2010 - August, 2010**

Worked on Project Blue Spruce (most of which is now open sourced as the Open Cooperative Web Framework, and maintained by the Dojo Foundation). Responsibilities included:

- development, testing, and debugging of the framework
- implementation of demonstrations of the framework in the form of web applications

**Amentra, Inc., a Red Hat Company**, Charlotte, North Carolina USA

*Consultant*

**2007 - 2009**

- Improved usability of mobile software for home healthcare specialists by researching ways to create a dynamic, intuitive interface to extend the existing design.
- Researched capability of Google Web Toolkit (GWT) to replace portions of our server and client-side application stack.
- Researched user interface methods to create an intuitive view for entering and editing data in a Java/JSP/JSF application.
- Investigated usability of speech input for Investment Banking application.
- Researched intuitiveness of various user interfaces for a Stock Market monitoring application.
- Explored optimization techniques for Business Processes through Oracle BPEL services and Microsoft BizTalk.
- Served as Documentation Lead and Lead Technical Writer for an Enterprise Application Integration project.
- Managed human and material resources for a team of 15.
- Developed software to solve business problems in Enterprise Application Integration contexts.

**International Business Machines (IBM)**, Research Triangle Park, North Carolina USA

*Co-op Software Developer*

**January, 2007 - June, 2007**

Worked on the IAccessible2 open standard accessibility API for Microsoft Windows applications.

Responsibilities included:

- Development, testing, and debugging developer tools for the framework
- Technical writing to produce documentation for the standard.

**Department of Computer Science of the University of North Carolina**, Chapel Hill, North Carolina USA

*Assistive Technology Research Assistant* **2005 - 2006**

- Designed and implemented projects to assist people with disabilities as well as edit others programs to ready them for release.
- Hosted and lead demonstrations of UNC-designed assistive technologies.
- Adapted an open source pad-dancing game to be more socially and functionally appropriate to a particular demographic.

*Teaching Assistant* **2005**

- Provided supplementary instruction to students of the 3D Computer Animation First Year Seminar in the lab and classroom.

PROFESSIONAL  
DEVELOPMENT

**Graduate Academy for Teaching Excellence Member** **Virginia Tech, 2014-2017**

**Doctoral Colloquium Participant** **Conference on the Design of Cooperative Systems**

- DC co-chaired by: Myriam Lewkowicz and Liam Bannon **Nice, France. May 2014**
- “Co-consumption as Shared Experience to Promote Togetherness”

**Completed New Media Faculty Seminar** **Virginia Tech, 2013**

**Global Perspectives in Higher Education, Europe** **Switzerland, Germany, and Italy**

- ENGE 5014: Foundations of Engineering Education (3 cr) **May-June 2011**
- ENGE 5504: Practicum in the Engineering Classroom (1 cr)
- GRAD 5104: Preparing the Future Professoriate (3 cr)
- GRAD 5114: Pedagogical Practices in Contemporary Contexts (3 cr)
- GRAD 5954: Global Perspectives

**Completed Research Through Design Course with Bill Gaver** **ACM SIGCHI, 2011**

**Completed Engineering Education Graduate Certificate** **Virginia Tech, 2011**

- ENGE 5014: Foundations of Engineering Education (3 cr)
- ENGE 5504: Practicum in the Engineering Classroom (1 cr)
- GRAD 5104: Preparing the Future Professoriate (3 cr)
- GRAD 5114: Pedagogical Practices in Contemporary Contexts (3 cr)
- GRAD 5954: Global Perspectives

**Completed Future Professoriate Graduate Certificate** **Virginia Tech, 2011**

- GRAD 5104: Preparing the Future Professoriate (3 cr)
- GRAD 5114: Pedagogical Practices in Contemporary Contexts (3 cr)
- GRAD 5954: Global Perspectives

**Completed Safe Zone Gender Identity & Gender Expression Training** **UNC, 2005**

- Safe Zone “Challenge” Allies further develop the topics begun in the Safe Zone Training.

**Completed Safe Zone Training** **UNC, 2004**

Safe Zone Allies develop:

- A deeper awareness of personal ideas, stereotypes, and assumptions related to gay, lesbian, bisexual, transgender, intersex, queer and allied (LGBTIQA) students

PROFESSIONAL  
SERVICE  
EXPERIENCE

- An increased comfort level in addressing concepts and language regarding LGBTIQA communities with the university community and with individuals
- An increased awareness of services on campus that support LGBTIQ and allied individuals
- A network of community and campus staff, faculty, and students to support people of all sexual orientations, gender identities and gender expressions on campus

**Workshop Organizer, People, Systems, and Information** **invitational workshop** **March 2016**

- Manged a \$20,000 Budget.
- Invited speakers and arranged their travel.
- Planned the event schedule.
- Booked the event venue.
- Contracted catering for the event.
- Participated in the workshop.

**ACM CHI 2016 Technical Program: Operations Co-chair** **January-April 2016**

- Configured, deployed, and provided production support for the CHI 2016 Conference Scheduling System (included “authorsourcing” [offering a individualized-questionnaire to each author to suggest which papers should be in the same sessions], scheduling the sessions, and correcting typographical or character formatting errors)

**Video Coding Volunteer** **Spring 2012**

- Volunteerd as a coder to contribute to the beginning of a labor pool, “Coding Commons,” that was conceived to help researchers (graduate students in our program) complete their video coding tasks, while simultaneously training less-experienced graduate students in video coding.

**Reviewer**

- CHI 2014-2016
- DIS 2014-2016
- CSCW 2016
- SIGCSE 2012
- ASSETS 2010

**Student Volunteer**

- CHI 2011-2016
- DIS 2014 - Student Volunteer Chair
- CSCW 2014-2016
- SIGCSE 2012
- ASSETS 2010

**Graduate Council Vice President** **2012 - 2013**

Virginia Tech Computer Science Graduate Council

- Served the students and Computer Science Department by supporting Graduate Council and maintaining institutional knowledge.

**Workshop Facilitator** **October 2012**

Virginia Tech Computer Science Department

- With support of a CS4HS Grant from Google, Inc. and along with Professors of Computer Science from Virginia Tech, I helped teach high school Computer Science teachers about some of the ways we teach Computer Science at Virginia Tech, including the Media Computation approach.

**Graduate Council President** **2011 - 2012**

Virginia Tech Computer Science Graduate Council

- Appointed other officers, chose meeting times, set meeting agenda, set year agenda, addressed council and student body during meeting and other Computer Science Department functions.

### **Conference Exhibitor**

**March 2010**

The 41st ACM Technical Symposium on Computer Science Education, Milwaukee, WI, USA

- Presented AlgoViz.org and administered surveys to conference attendees.

### **National Center for Women and Information Technology**

*Award Applicant Reviewer*

**December 2009**

NCWIT Aspirations in Computing Award Responsibilities included:

- Reading and ranking applications for the award.

## DEVELOPMENT SKILLS

### **Programming/Scripting**

- Languages: HTML, JavaScript (including Node.js and socket.io, backbone and underscore, ember and handlebars, jQuery, dojo, angular, firebase, and Google Web Toolkit [GWT]), CSS, Ruby (and the Ruby on Rails Framework), Java (EE, desktop, GWT, and Android), C#, PHP, SQL, Python, Swift, Objective-C, Perl, C++, C
- Multi-platform development: Through use of various technologies such as Apache's Cordova or 'Phonegap' as well as more generic Javascript and HTML, or even Java or C# I have developed applications that run across conventional computers and mobiles.

### **Software Development**

- I am well versed in many best practices and processes in software development including source-control and versioning (git, svn), unit-testing (python, junit), ORM, and ETL.
- I have also worked on teams following a variety of software development methodologies including Waterfall, Agile, Spiral, Scrum, and Kanban.

### **Operating Systems**

- I am comfortable working in any operating system (OS X, Windows, and Linux).

## WEB PRESENCE

### **Professional Portfolio**

- Research, Teaching, and Service statements; project details; course work details; and blog posts can be found on my professional portfolio <http://hcientist.com>

### **Publications**

- Author Page in ACM Digital Library [https://dl.acm.org/author\\_page.cfm?id=81484659568](https://dl.acm.org/author_page.cfm?id=81484659568)
- Author Page in Google Scholar <http://scholar.google.com/citations?hl=en&user=PE1s-WgAAAAJ>

### **Public Contributions**

- Contributions to Open Source Software on GitHub <https://github.com/thegreatmichael/>
- Contributions to Question/Answer Exchange on StackExchange <http://stackexchange.com/users/979803/michael?tab=accounts>