

CAITLIN (CAITIE) LUSTIG

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EDUCATION

University of California, Irvine

Irvine, California

Master of Science in Informatics 2018

Thesis: "Algorithmic Authority of the Bitcoin Blockchain"

Advisors: Prof. Bonnie Nardi and Prof. Geoffrey Bowker

University of California, Irvine

Irvine, California

PhD in Informatics 2012-2018 (incomplete)

Advisors: Prof. Bonnie Nardi and Prof. Geoffrey Bowker

University of Washington

Seattle, Washington

Bachelors of Science in Computer Engineering, Hardware Track, 2006

PEER-REVIEWED PUBLICATIONS

- Jaime Snyder, Elizabeth Murnane, **Caitlin Lustig**, Stephen Volda. "Visually Encoding the Lived Experience of Bipolar Disorder." CHI Conference on Human Factors in Computing Systems. ACM, 2019 (forthcoming).
- Chris Elsdon, Bettina Nissen, Karim Jabbar, Reem Talhouk, **Caitlin Lustig**, Paul Dunphy, Chris Speed, and John Vines. "HCI for Blockchain: Studying, Designing, Critiquing and Envisioning Distributed Ledger Technologies." In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems, 2018.
- Yong Ming Kow and **Caitlin Lustig**. "Imaginariness and Crystallization Processes in Bitcoin Infrastructuring." Journal of Computer Supported Cooperative Work (JCSCW). 2018.
- **Caitlin Lustig**, Katie Pine, Bonnie Nardi, Lilly Irani, Min Kyung Lee, Dawn Nafus, and Christian Sandvig. "Algorithmic Authority: the Ethics, Politics, and Economics of Algorithms that Interpret, Decide, and Manage". Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems. ACM, 2016.
- Susann Wagenknecht, Min Kyung Lee, **Caitlin Lustig**, Jacki O'Neill, and Himanshu Zade. "Algorithms at Work: Empirical Diversity, Analytic Vocabularies, Design Implications". Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion. ACM, 2016.
- **Caitlin Lustig** and Bonnie Nardi. "Algorithmic Authority: The Case of Bitcoin". Proceedings of HICSS-48. Kauai, HI: IEEE Computer Society. January 5-8, 2015.
- Ruth E. Anderson, Waylon Brunette, Erica Johnson, **Caitlin Lustig**, Anthony Poon, Cynthia Putnam, Odina Salihbaeva, Beth E. Kolko, Gaetano Borriello. "Experiences with a Transportation Information System that Uses Only GPS and SMS". ICTD 2010 at Royal Holloway, University of London. December, 2010.
- Ruth E. Anderson, Anthony Poon, **Caitlin Lustig**, Waylon Brunette, Gaetano Borriello and Beth E. Kolko. "Building a Transportation Information System Using Only GPS and Basic SMS Infrastructure". ICTD 2009 at Carnegie Mellon Qatar. April, 2009.
- **Caitlin Lustig**, Hristo Novatchkov, Lucy Dunne, Mike McHugh and Lorcan Coyle. "Using Colocation to Support Human Memory". MeMos 2007: Supporting Human Memory with Interactive Systems. Workshop at the 2007 British HCI International Conference. 2007.

OTHER PUBLICATIONS

- Nicholas Proferes, Alissa Centivany, **Caitlin Lustig**, and Jed Brubaker. "Studying User Perceptions and Experiences with Algorithms". International AAAI Conference on Web and Social Media (ICWSM) 2017.
- UC Irvine's Celebration of Graduate Success booklet, 2016.
- Jed R. Brubaker, **Caitlin Lustig**, Gillian R. Hayes. "PatientsLikeMe: Empowerment and Representation in a Patient-Centered Social Network". CSCW Research in Healthcare: Past, Present, and Future CSCW 2010 workshop.
- **Caitlin Lustig** and Lorcan Coyle. "Reminding Short-Term Memory Sufferers to Complete Routine Tasks". University College Dublin. UCDCSI Technical Report 2007-10. 2007.

P R E S E N T A T I O N S

- Invited presentation at the Consortium for the Science of Sociotechnical Systems (CSST): "Theorizing Algorithms as Boundary Objects"; panel member "Algorithms and Their Consequences" (2018).
- Invited presentation at Data & Society: Governance through Protocol: Scaling Bitcoin (2017).
- Invited lecturer: Global Disruption and Information Technology (2014) and Technical Communication (2016).
- Speaker for the "Writing and Publishing an Article in an Interdisciplinary Field", "Productivity Software: Methods and Applications for Time Management", "Popular Citation and Writing Software", and "Writing Your Way to a Focused Research Question" workshops at UC Irvine's Graduate Resource Center, 2015-2016.
- John Seberger, **Caitlin Lustig**, Andy Echenique. "Music for Labs". Society for Social Studies of Science (4S) 2013.

C O N F E R E N C E W O R K S H O P S , P A N E L S , & I N S T I T U T E S

- *Organizer*: CHI 2018 workshop: HCI for Blockchain: Studying, Designing, Critiquing and Envisioning Distributed Ledger Technologies
- *Organizer*: ICWSM 2017 workshop: Studying User Experiences and Experiences with Algorithms
- *Participant*: Consortium for the Science of Sociotechnical Systems (CSST), Summer Research Institute, 2016
- *Participant*: Hackademia Summer School, Lüneburg, Germany, 2016, <25% acceptance rate
- *Participant*: iConference 2016 Doctoral Colloquium, <25% acceptance rate
- *Organizer*: CSCW 2016 workshop: Algorithms at Work: Empirical Diversity, Analytic Vocabularies, Design Implications
- *Lead organizer and moderator*: CHI 2016 panel: Algorithmic Authority: the Ethics, Politics, and Economics of Algorithms that Interpret, Decide, and Manage
- *Participant*: Online Dublin Computer Science Summer School, 2007

T E A C H I N G & W R I T I N G C O N S U L T A N T E X P E R I E N C E

University of California, Irvine

Writing Consultant for the Graduate Resource Center

Irvine, California
June 2015 to June 2017

- Helped other graduate students with grammar, structure, clarity, and flow for conference and journal papers, grant and fellowship applications, coursework, résumés and CVs, and cover letters.
- Helped undergraduates with graduate school and fellowship applications.
- Organized and led Dissertation Bootcamps for graduate students to learn tips on writing and managing stress over the period of a three-day "write-in".
- Developed and led small workshops to teach issues related to writing, such as finding a research question.
- Worked with Graduate Division on a publication for the Celebration of Graduate Success event, writing the profiles of over 30 honored alumni under tight deadlines.

University of California, Irvine

Teaching Assistant for "The Future of Money: From Barter to Bitcoin".

Irvine, California
June 2015 to July 2015

- Graded essays, labs, participation, and the final.
- Participated in weekly videos recapping the week for students.
- Actively engaged students in the class forum discussions.

University of California, Irvine

Teaching Assistant, "How Computers Work", "Human-Computer Interaction", "Games & Society", and "Technical Communication"

Irvine, California
June to July 2013; September 2014 to April 2015

- Helped form a syllabus and graded homework assignments and tests.
- Gave lectures to a class on technical communication and my experiences in industry.
- Gave students detailed feedback on their writing skills and taught students to find and understand academic articles for their research papers.

University of California, Irvine.

Teaching Assistant, "Operating Systems"

Irvine, California
September 2009 to June 2010

- Taught discussion sections where I went over homework problems and helped answer student questions.
- Developed and graded homework assignments and tests.
- Held office hours, led review sessions, answered student emails, and proctored exams.

RESEARCH PROJECTS

Visualizing Bipolar Disorder University of Washington

Seattle, Washington
June 2018 to present

This project is in collaboration with the University of Washington, University of Colorado, Boulder, and Stanford University. It focuses on developing better ways to represent bipolar people's lived experiences through visualizations. This project involved three rounds of interviews with bipolar people, using visual elicitations to examine how participants monitored their rhythms. My role in this project was to help analyze interviews, and I am a co-author for a CHI 2019 paper.

Possible Futures for Autonomous Systems: The Governance, Labor, and Imaginaries of the Blockchain Community University of California, Irvine

Irvine, California
January 2015 to June 2018

In this thesis, I expanded on the concept of algorithmic authority, a concept that I introduced in earlier work to understand the role of algorithms in daily life. Algorithmic authority is the legitimate power of algorithms to direct human action and to impact which information is considered true. Through a study of the users of the cryptocurrency Bitcoin, I explored what it means to trust in algorithmic authority in an open source, decentralized system in contrast to the authority of centralized and corporate software. My study of the Bitcoin community utilized data from interviews, a survey, and observation of offline and online space.

Smart Contracts University of California, Irvine

Irvine, California
June 2016 to September 2016

"Smart contracts" are contracts that are written in code and automatically enforced when certain conditions are met. I researched the sociotechnical implications of these smart contracts in collaboration with the Institute for Money, Technology & Financial Inclusion.

Algorithmic Authority of Bitcoin University of California, Irvine

Irvine, California
November 2012 to January 2015

Bitcoin is seen as a relatively unique form of currency because it does not rely on a government or centralized authority for regulation or value. This project examines why users say that they trust the algorithms of Bitcoin's code and the nuances of this trust. In the course of researching this project, I explored what the increasing power of code and algorithms means for society.

User Communities of Practice University of California, Irvine

Irvine, California
April 2015 to June 2015

This research project was funded by a large design company, looking at how their users develop communities of practice and expertise through online spaces. In this project, I analyzed forum posts and websites used by these users, interviewed employees of the company, interviewed expert users, and met with the company to learn about how they understood their users.

Remote Occupation Socialization University of California, Irvine

Irvine, California
June 2013-August 2013; September 2014 to March, 2015

This project was a multi-sited ethnographic study of workers who learn the norms and skills of their occupation in remote locations. I qualitatively coded interview data from Mexican entrepreneurs who had developed or worked in tech start-ups. I later continued this work through exploring how this project contributes to new understandings of communities of practice.

Expressive Topologies University of California, Irvine

Irvine, California
September 2012 to September 2014

This project examined new forms of knowledge expression and the future of academic publishing. I worked on a website that represented social networking sites as archives by using the themes from Derrida's *Archive Fever*. This interactive website resembled a famous social media platform. We used this website to tell a story to visitors and to encourage them to think about the ways in which identity can be represented through the archive.

Music for Labs

University of California, Irvine

Irvine, California
January 2012 to September 2014

For this project, we built upon research in computer supportive collaborative work and ubiquitous computing in order to explore how knowledge and presence can be conveyed through music in a research lab. We used RFID tags to detect when lab members entered and left the lab. My work on the system was centered on creating the technical implementation of this system.

Event Detection through Twitter Updates

University of California, Irvine

Irvine, California
June 2010 to September 2010

In 2010, over 65 million tweets were posted a day, which made it a rich site for data analysis. In this project, I scraped Twitter using Python. I then analyzed tweets with statistical methods to detect when unusual events were taking place in a certain location. Users could subscribe to various locations and get notified when events happened in that location; in particular, this system could let users know when emergencies were taking place.

***bus (Starbus)**

University of Washington

Seattle, Washington
September 2007 to June 2009

The *bus project grew out of my senior capstone work on technology for developing regions. In many regions of the world, public transportation is unreliable and difficult to use. One such place is Kyrgyzstan where the streets have multiple names, there are no set bus stops, and there is no set bus schedule. To make the bus system easier to use, we developed a low-cost, low-infrastructure bus tracking system.

Online Dublin Computer Science Summer School

University College Dublin

Dublin, Ireland
June 2007 to September 2007

The Online Dublin Computer Science Summer School was an undergraduate research internship at University College Dublin. I developed a glove that contained an RFID reader. The glove detected user actions based on objects they touched. This glove was developed for users with memory loss or dementia who might forget what they were doing while performing a complex task.

RFID Ecosystem

University of Washington

Seattle, Washington
September 2006 to January 2008

The RFID Ecosystem explored the ways in which RFID technology could be used to track human behavior in useful and ethical ways. Processing massive amounts of sensitive data was a major aspect of the project. Therefore, before the system was in wide use, we needed ways to simulate heavy usage. To that end, I created a simulator for realistically generating tag read events for a given location.

P R O G R A M M I N G W O R K E X P E R I E N C E

Broadcom Corporation

Firmware Application Engineer graduate intern

Irvine, California
July 2011 to August 2012

- Developed Bluetooth firmware for human interface devices (television remotes, mice, keyboards) in C++.
- Developed and tested tools for uploading firmware and over the air updates in Perl and C++.
- Customized and maintained a tool for monitoring more advanced features of remotes; this included button presses, visualizing touchpad and motion control, and recording audio.
- Communicated with manufacturers of the human interface devices and provided them with documentation.
- Trained other employees on using Linux tools.

Grameen Foundation

Software Consultant

Seattle, Washington
July 2009 to September 2009

- Developed and tested the Mifos web software for microfinance institutions using Java.
- Became familiar with agile software development, the scrum framework, and extreme programming.

Intermec Technologies

Software Engineer in the Wireless Security Administration Engineering Group

Everett, Washington

June 2008 to May 2009

- Worked on software for handheld computers in supply chain management for scanning barcodes, RFIDs, etc.
- Developed wireless networking software for 802.11 WiFi radios on Windows CE and Windows Mobile hand-held computers in C++.
- Analyzed network packets using various network analysis tools to debug wireless software.

University of Washington, Computing and Communications

Student Programmer for the Network Architecture Tools Group

Seattle, Washington

September 2005 to January 2008

- Developed tools using Perl and PostgreSQL for the Network Operations Center at the University of Washington.
- Created a tool for parsing, creating, and managing DNS records.
- Developed tools for subnet management, SNMP, and other network management tasks.

Research in Motion

Software Test Associate

Issaquah, Washington

January 2007 to July 2007

- Developed tools for the software testing team that interfaced with their ticketing system.
- Developed an interactive website using PHP, CSS, and Javascript to show software bug and ticket trends.

University of Washington Medical Center

Help Desk Associate

Seattle, Washington

February 2005 to September 2005

- Acted as a liaison between medical users (nurses, doctors, and technicians) and desktop support.
- Troubleshooted issues with electronic medical record software, account management, and hardware problems.

S C H O L A R S H I P S , G R A N T S , A N D A W A R D S

- Finalist for the University of Colorado's Chancellor's Postdoctoral Fellowship Program 2017
- Selected for the ACM-W scholarship to attend CHI 2016, which included an assigned mentor
- Selected for a travel grant to attend Financial Cryptography and Data Security 2016
- Selected for UC Irvine's Associate Graduate Student's travel grant to attend CSCW 2016
- Selected for the iConference 2016 doctoral colloquium, <25% acceptance rate
- Selected for UC Irvine's School of Information and Computer Sciences' travel grant to attend HICSS 2015
- ICS Fellowship: three years of funding to outstanding applicants—UC Irvine, 2009
- Microsoft Scholarship—University of Washington, 2008
- Entered the University of Washington's Computer Science and Engineering major via the Early Decision Program
- Entered the University of Washington through the University Academy program at the age of 16

S E R V I C E

- Reviewer for CHI, Financial Cryptography and Data Security, HICSS, iConference, JCSCW.
- Member of the IEEE Blockchain Initiative Education subcommittee, 2018.
- Volunteer for the Gender Diversity's tween group at Seattle Children's Hospital from April 2018-present.
- Associate Chair for CHI 2019 Workshops.
- Associate Chair for CHI 2017 Late Breaking Work.
- iConference 2015 student volunteer.
- From 2012-2015, I supported and maintained the web server for the EVOKE lab's website: <http://evoke.ics.uci.edu>
- Member of UC Irvine's Associated Graduate Student council from the 2011-2012 school year.
- Member of the IEEE 802.11ac task force, 2009.

P R O G R A M M I N G L A N G U A G E S

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| • C | • Javascript | • Python |
| • C++ | • Perl | • SQL |
| • Java | • PHP | |