

Kai Mast

Distributed Systems Ph.D. Student, Third Year

440 Gates Hall
Cornell University
kai@systems.cs.cornell.edu

Education

- | | |
|-----------|--|
| 2014–2019 | Ph.D. in Computer Science, Cornell University
with a minor in Sociology |
| 2011–2014 | Bachelor in Software Systems Science, University of Bamberg
with a minor in Psychology |

Publications

- | | |
|------|--|
| 2017 | Cultural Fault Lines and Political Polarization
Yongren Shi, Kai Mast , Ingmar Weber, Agrippa Kellum, Michael Macy
Proceedings of the 2017 ACM on Web Science Conference |
| 2017 | Understanding Rack-Scale Disaggregated Storage
Sergey Legtchenko, Hugh Williams, Kaveh Razavi, Austin Donnelly, Richard Black, Andrew Douglas, Nathanael Cheriére, Daniel Fryer, Kai Mast , Angela Demke Brown, Ana Klimovic, Andy Slowey, Antony Rowstron
9th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage 17) |
| 2015 | CCN Forwarding Strategies for Multihomed Mobile Terminals
Klaus M. Schneider, Kai Mast , Udo R. Krieger
International Conference on Networked Systems (NetSys) 2015 |

Professional Experience

- | | |
|--------------|---|
| 2014–Present | Research Assistant, Systems Lab, Cornell University
<i>Ithaca, New York</i> <ul style="list-style-type: none">• Work on next-generation datastores and transaction processing system• Member of the Initiative for Cryptocurrencies and Contracts (IC3) |
| 2015–2017 | Research Assistant, Social Dynamics Lab, Cornell University
<i>Ithaca, New York</i> <ul style="list-style-type: none">• Collecting large amounts of data for research on social graphs• Developed and implemented a novel technique for predicting political alignment using such graphs. |
| 2016 | Intern, Systems Groups, Microsoft Research
<i>Cambridge, U.K.</i> <ul style="list-style-type: none">• Involvement in the Rack-Scale Computing Project |
| 2014 | Thesis Student, Intel Mobile Communications
<i>Munich, Germany</i> <ul style="list-style-type: none">• Wrote my undergraduate thesis under industry supervision• Helped maintain an internal tool for chip development• Introduced the team to more efficient tools and programming paradigms |
| 2013–2014 | Research Assistant, University of Bamberg
<i>Bamberg, Germany</i> <ul style="list-style-type: none">• Developed a comprehensive suite of tools for rateless error correction codes• Supported work on building a fast peer-to-peer video streaming system |
| 2013 | Software Engineer, Siemens Healthcare
<i>Erlangen, Germany</i> <ul style="list-style-type: none">• Investigated building novel user interfaces using the Qt Toolkit |
| 2012–2013 | Software Engineer, Elektrobit Automotive |

Erlangen, Germany

- Worked on a tool to develop user interfaces for cars
- Helped to improve the software and OpenGL rendering backends

2011 **Research Assistant, Institute for Theoretical Psychology**

Bamberg, Germany

- Implemented a model on how the human brain might store information

Teaching

Spring 2017 **CS 4110: Operating Systems**
Cornell University, Outstanding TA Award

Fall 2015 **CS 4110: Operating Systems**
Cornell University

Fall 2014 **CS 4320: Introduction to Database Management Systems**
Cornell University

Fall 2013 **KTR-Datkomm-B: Datenkommunikation (Computer Networks)**
University of Bamberg

Activities & Outreach

2017 **The Cornell, Maryland, Max Planck Pre-doctoral Research School**
Max Planck Institute for Software Systems

- Helped to educate undergraduate students about gradschool and the application process.

2016 **Expand Your Horizon**
Cornell University, Ithaca

- Taught Computer Science to Middle School Girls

2014 **Computer Science Education**
Belle Sherman Elementary School, Ithaca

- Taught an afternoon course in basic computer science
- We tried to make math problems more interesting using simple programming tools

2011-2014 **Student Representative**
University of Bamberg

- Offered help to students during office hours
- Organized orientation for first-years
- Took part in department meetings as a student representative
- Organized university-wide activities with other student groups

2012-2013 **Board Member of County Chapter**
Pirate Party of Germany

- We came up with and practiced novel forms of large-scale grassroots activism
- Gave countless information sessions about the digital revolution and related issues

Technical Skills

- **Cluster Management:** I am responsible for a semi-large cluster in my department. I know how to set up DHCP, TFTP, DNS, and similar services. Further, I am able to deploy software and run experiments on a cluster.
- **Languages and Libraries:** Fluent in C[++], Python, German, and Java. I have experience with OpenGL, OGRE, SDL, and Qt.
- **Project Management:** During my various internships I experienced different kinds of project management: mostly SCRUM and Kanban. I also took part in two project management seminars, where one of them certified me in project management.