QIZHE CAI

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EDUCATION

Princeton University, Princeton *2016 - Present*
M.S.E (thesis-track) in Computer Science
Overall GPA: 3.925/4.0
Advisor: Jennifer Rexford
Coursework: **Advanced Computer Network**; Artificial Intelligence; Automated Reasoning About Software; **Advanced Topics in Computer Science: Patterns in Network Architecture**;

University of Michigan, Ann Arbor *2012 - 2016*
B.S.E in Computer Science, Summa Cum Laude
Overall GPA: 3.956/4.0
Coursework: **Operating Systems**; Computer Network; Data Structures and Algorithms; **Cryptography and Network Security**; Artificial Intelligence; Computer Game Design; Logic Design; Computer Organization; Machine Learning;

PUBLICATION

1.Rob Harrison,**Qizhe Cai**, Arpit Gupta, Jennifer Rexford,"Network-Wide Heavy Hitter Detection with Commodity Switches" , SOSR 18
2.**Qizhe Cai**, "Survey: Mobility in 6LoWPAN networks"
3.**Qizhe Cai**, Wei Hu, Yueyang Qiu,"AccWeb Improving Web Performance via Prefetching"

RESEARCH EXPERIENCE

Research Assistant Feb 2017 - Present
Advisor: Jennifer Rexford *Princeton, NJ*

- Built a data monitoring system called Sonata utilizing programmable switches and Spark streaming processors.
- Identified the network-wide heavy-hitter detection problem and find out solutions and optimization to reduce memory usage in switches and communication costs between switches and controllers.
- Run the simulation to prove our solutions.
- Built P4 prototypes on the hardware Tofino Switch.

Research Assistant Sep 2015 - May 2016
Advisor: Harsha V. Madhyastha *Ann Arbor, MI*

- Assisted in a research project about re-prioritizing web content to improve user experience on mobile devices.
- Implemented a chrome extension to cache static web requests for each visited web pages and prefetch corresponding web resources once a web page starts loading.

Research Assistant Jan 2015 - May 2015
Advisor: Atul Prakash *Ann Arbor, MI*

- Assisted in a web database security project and focused on how to assign control policies to maintain the high performance of the system while ensuring security.
- Did the mathematical proof to show the correctness of our write access control policy.

WORK EXPERIENCE

Princeton University Sep 2016 - Present
Course Teaching Assistant *Princeton, NJ*

- COS318 Introduction to Operating System - Fall 2017
- COS333 Advanced Programming Techniques - Spring 2017
- COS318 Introduction to Operating System - Fall 2016

Google Inc. June 2017 - August 2017
Software Engineer Intern *Mountain View, CA*

- Worked at Google Assistant Team.
- Enabled third-party Bluetooth Low Energy devices can be voice-controlled by users through Google Home.
- Built Bluetooth Low Energy Device Custom Profile to enable third-party manufacturers to define their own custom command manuals without writing code by themselves.
- Built sample BLE robot demo to demonstrate the workflow of the project.

Google Inc. June 2016 - August 2016
Software Engineer Intern *Mountain View, CA*

- Worked at Google Fiber AAA Team.
- Built a back-end server for providing API methods for IoT devices to authenticate identities.
- Built Android mobile demo to demonstrate the workflow of authentication.

Zazzle Inc. May 2015 - August 2015
Software Engineer Intern *Redwood City, California*

- Implemented a new protocol called Remote Executor based on TCP/IP and SSL protocols for sending remote commands between Windows servers.
- Built web pages for the companys customer service, including refund, reprint, return pages

AWARDS

Teaching Assistantship, 2016, 2017 - Princeton University

James B. Angell Scholar, 2014, 2015, 2016 - University of Michigan

Dean's List, 2013, 2014, 2015 - University of Michigan

University Honors 2012, 2013, 2014, 2015 - University of Michigan

TECHNICAL STRENGTHS

Computer Languages P4, C++, C, Java, JavaScript, HTML, CSS, PYTHON, C#