

Raymond Cheng

CONTACT INFORMATION	me@raymondcheng.net https://raymondcheng.net Security Research Laboratory Electrical Engineering and Computer Sciences University of California, Berkeley Soda Hall Berkeley, CA 94720 USA		
RESEARCH STATEMENT	My research interests are in distributed systems and security, with a focus on cloud security and privacy. I am interested in building novel systems that broaden the rights of Internet users. These projects include privacy-preserving systems that give users better control over their data and systems that spread digital freedom of speech and information to citizens around the world.		
CURRENT POSITION	University of California, Berkeley , Berkeley, CA Postdoctoral Researcher in Security Research Group, EECS <ul style="list-style-type: none">• Advisor: Prof. Dawn Song		
EDUCATION	University of Washington , Seattle, WA expected 2017 Ph.D. Candidate in Computer Science and Engineering <ul style="list-style-type: none">• Thesis: <i>Practical Improvements to User Privacy in Cloud Applications</i>• Advisor: Prof. Thomas Anderson and Prof. Arvind Krishnamurthy M.S. in Computer Science Massachusetts Institute of Technology , Cambridge, MA M.Eng. in Electrical Engineering and Computer Science 2010 <ul style="list-style-type: none">• Thesis: <i>WhanauSIP - A Secure Peer-to-Peer Communications Platform</i>• Advisor: Prof. Frans Kaashoek and Dr. Chris Lesniewski-Laas B.S. in Electrical Engineering and Computer Science 2009 B.S. in Physics 2009		
PROFESSIONAL EXPERIENCE	Microsoft Research Asia Beijing, China <i>System Research Group</i> , Dr. Lidong Zhou Apr 2011 - Aug 2011 <ul style="list-style-type: none">• Research Intern Google New York, NY <i>Search Quality</i> , Michael Schueppert and Mayur Thakur Jun 2012 - Sep 2012 <ul style="list-style-type: none">• Software Engineer Intern <i>Google Ideas</i> , Lucas Dixon and Jared Cohen Sep 2014 - Jan 2015 <ul style="list-style-type: none">• Software Engineer Intern		
TEACHING EXPERIENCE	UC Berkeley Electrical Engineering and Computer Science <ul style="list-style-type: none">• Blockchain, Cryptoeconomics, and the Future of Technology, Business and Law (CS294-144) Instructor Jan 2018 - May 2018 Lecturers: Raymond Cheng, Gregory La Blanc, Dawn Song, Adam Sterling UW Computer Science and Engineering <ul style="list-style-type: none">• Distributed Systems (CSE452) Teaching Assistant Jan 2016 - Mar 2016 Lecturer: Tom Anderson		

- Computer Systems (CSE550) Teaching Assistant Sep 2012 - Dec 2012
Lecturer: Arvind Krishnamurthy
 - Networks Seminar (CSE590L) Coordinator Apr 2013 - Jun 2016
Coordinators: Raymond Cheng, Will Scott, Seungyeop Han
 - Robotics Systems Seminar (CSE590RS) Coordinator Jun 2016 - Sep 2016
- UW Bioengineering Department**
- Neural Engineering (BIOEN498C) Teaching Assistant Sep 2011 - Dec 2011
Lecturer: Albert Folch

OPEN SOURCE
PROJECTS

Ekiden

- Source Code: <https://github.com/ekiden/>

Talek

- Source Code: <https://github.com/privacylab/talek>

uProxy

- Website: uproxy.org
- Source Code: <https://github.com/uproxy/>

Kingdom

- Source Code: <https://github.com/ryscheng/kingdom>

Radiatus

- Website: radiatus.io
- Source Code: <https://github.com/freedomjs/radiatus>

freedom.js

- Website: freedomjs.org
- Source Code: <https://github.com/freedomjs/freedom>

SERVICE

High School Outreach

Presented to high school students from around the country on the exciting possibilities of a career in computer science. Presentations included live demos and college advice.

- NEPA Girls Who Code, Scranton, PA.
- Delaware Valley H.S., Milford, PA
- UW CSE Open House, Seattle, WA
- Meadowdale H.S., Lynnwood, WA

Hackathon Mentorship

- Grace Hopper Open Source Day, Houston, TX Oct 2015
- NYUAD International Hackathon for Social Good in the Arab World, Abu Dhabi, UAE. Feb 2014

UW Science and Engineering Business Association (SEBA)

VP of Operations

2012-2015

- Managed the UW SEBA website, with > 20,000 page views per month.
- Managed the UW SEBA mentorship program, the largest science and engineering mentorship program on campus.

REFEREED
PUBLICATIONS

- [1] Cheng, R., He, W., Hynes, N., Johnson, N., Kos, J., Zhang, F., Juels, A., Miller, A., Song, D. *Ekiden: A Platform for Private, Trustworthy, and Performant Smart Contract Execution*. In submission.
- [2] Cheng, R., Scott, W., Zhang, I., Anderson, T., Krishnamurthy, A., Parno, B. *Talek: Private Group Messaging with Indistinguishable Access Patterns*. In submission.

- [3] Cheng, R., Scott, W., Ellenbogen, P., Howell, J., Roesner, F., Krishnamurthy, A., and Anderson, T. *Radiatus: a Shared-Nothing Server-Side Web Architecture*. ACM Symposium on Cloud Computing (SOCC). 2016
- [4] Zhang, I., Lebeck, N., Fonseca, P., Holt, B., Cheng, R., Norberg, A., Krishnamurthy, A., Levy, H. *Diamond: Automating Data Management and Storage for Wide-area, Reactive Applications*. 11th USENIX Symposium on Operating Systems Design and Implementation (OSDI). 2016.
- [5] Bhoraskar, R., Langenegger, D., He, P., Cheng, R., Scott, W., and Ernst, M. *User scripting on Android using BladeDroid*. The 5th ACM SIGOPS Asia-Pacific Workshop on Systems (APSYS). 2014.
- [6] Cheng, R., Scott, W., Krishnamurthy, A., and Anderson, T. *FreeDOM: a New Baseline for the Web*. The 11th ACM Workshop on Hot Topics in Networks (HotNets XI). 2012.
- [7] Cheng, R., Hong, Ji., Kyrola, A., Miao, Y., Weng, X., Wu, M., Yang, F., Zhou, L., Zhao, F., and Chen, E. *Kineograph: Taking the Pulse of a Fast-Changing and Connected World*. Proceedings of the 7th ACM European Conference on Computer Systems (Eurosys). 2012.
- TECHNICAL REPORTS
- [8] Scott, W., Cheng, R., Li, J., Krishnamurthy, A., and Anderson, T. *Blocking-Resistant Network Services using Unblock*. UW Technical Report UW-CSE-14-06-01. 2014.
- [9] Cheng, R., Schueppert, M., Becker, H., and Thakur, M. *SolocoRank: Social Signals for Local Search Quality*. UW Technical Report UW-CSE-13-11-05. 2013.
- [10] Scott, W., Cheng, R., Krishnamurthy, A., and Anderson, T. *freedom.js: an Architecture for Serverless Web Applications* UW Technical Report. UW-CSE-13-05-03. 2013.
- PATENTS
- [11] Yang, F., Zhou, L., Wu, M., Kyrola, A., Cheng, R., Miao, Y., Weng, X., and Hong, J. *Platform for Continuous Graph Update and Computation*. Patent Number 9244983. Microsoft Research, submitted 2011.
- INVITED TALKS AND CONFERENCE PRESENTATIONS
- [12] **Talek: Private Group Messaging with Indistinguishable Access Patterns**
- UC Berkeley RISE Security / Sunblaze Seminars. Berkeley, CA. Oct 2017
 - Stanford Security Seminar. Palo Alto, CA. Apr 2017
- [13] **Privacy as a Service**
- Various Universities. USA, Canada, Europe. Jan-Mar 2017
- [14] **Radiatus: a Shared-Nothing Server-Side Web Architecture.**
- SOCC: ACM Symposium on Cloud Computing. Santa Clara, CA. Oct 2016
- [15] **uProxy: a Social Proxy for your Browser**
- Circumvention Tech Festival. Valencia, Spain. Mar 2015
 - TA3M. New York, NY. Nov 2014
 - RIPE69. London, United Kingdom. Nov 2014
- [16] **User scripting on Android using BladeDroid**
- APSYS: ACM Asia-Pacific Workshop on Systems. Beijing, China. Jun 2014
 - Microsoft Research Asia. Beijing, China. Jun 2014
- [17] **uProxy: Crowdsourcing in the Face of Digital Repression**

- Google Ideas Summit. New York, NY. Oct 2013
- YouTube. <http://www.youtube.com/watch?v=aGOXMRJWSeg>
- [18] **FreeDOM: a New Baseline for the Web** Oct 2012
 - HotNets XI: Hot Topics in Networks. Redmond, WA.
- [19] **Kineograph: Taking the Pulse of a Fast-Changing and Connected World**
 - Eurosys Conference. Bern, Switzerland. Apr 2012
 - Stanford MobiSocial Seminar. Palo Alto, CA. Apr 2012
 - Palantir. Palo Alto, CA. May 2012
- [20] **Donor Appreciation Speech** Apr 2012
 - UW CSE Donor Luncheon. Seattle, WA.

PRESS

UC Berkeley

Cryptocurrencies Come to Campus

<https://www.nytimes.com/2018/02/08/technology/cryptocurrencies-come-to-campus.html>

The crypto craze has spread to college campuses

<https://www.cnbc.com/2018/03/22/colleges-are-now-offering-courses-in-cryptocurrencies-and-blockchain.html>

uProxy

Select articles:

Google Unveils Tools to Access Web From Repressive Countries

<http://business.time.com/2013/10/21/google-digital-rebels/>

Google's uProxy: A Peer-to-Peer Gateway to Internet Freedom

<http://mashable.com/2013/10/21/google-uproxy-internet-freedom/>

Google announces uProxy: internet censorship avoidance in a browser extension

<http://www.engadget.com/2013/10/21/google-ideas-uproxy/>

'Running battle': How Google hopes to beat countries cracking down on Internet freedom

http://usnews.nbcnews.com/_news/2013/10/23/21080699-running-battle-how-google-hopes-to-beat-countries-cracking-down-on-internet-freedom

Google uProxy lets you surf securely through a friend's connection

<http://www.geek.com/apps/google-uproxy-lets-you-surf-securely-through-a-friends-connection-1574584/>

This Google Browser Extension Will Allow You To Bypass Internet Censorship

<http://www.fastcompany.com/3020362/fast-feed/this-google-browser-extension-will-allow-you-to-bypass-internet-censorship>

Google unveils services promoting free expression

<http://www.reuters.com/article/2013/10/22/google-tools-idUSL1N0IB25B20131022>

UW CSEs uProxy unveiled at Google Ideas Summit in NYC

<http://news.cs.washington.edu/2013/10/22/uw-cses-uproxy-unveiled-at-google-ideas-summit-in-nyc/>

Get round internet censors using a friend's connection

<http://www.newscientist.com/article/mg22029415.500-get-round-internet-censors-using-a-friends-connection.html>

FreeDOM

Congratulations to the winners of the Madrona Prize and the Peoples Choice Awards!

<http://news.cs.washington.edu/2012/10/24/congratulations-to-the-winners-of-the-madrona-prize-and-the-peoples-choice-awards/>

STUDENT ADVISING

- Paul Ellenbogen 2013-2014

REFERENCES

Dawn Song (dawnsong@cs.berkeley.edu)

- Professor,
Computer Science Division, University of California, Berkeley

Thomas Anderson (tom@cs.washington.edu)

- Warren Francis and Wilma Kolm Bradley Chair,
Computer Science and Engineering, University of Washington

Jon Howell (jrh@google.com)

- Software Engineer, Google

Arvind Krishnamurthy (arvind@cs.washington.edu)

- Associate Professor, Computer Science and Engineering, University of Washington

Bryan Parno (parno@cmu.edu)

- Associate Professor, Computer Science Department, Carnegie Mellon University
- Researcher, Microsoft Research

Franziska Roesner (franzi@cs.washington.edu)

- Assistant Professor, Computer Science and Engineering, University of Washington

Additional references available upon request