

## Raymond Cheng

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CONTACT INFORMATION	<a href="mailto:ryscheng@cs.washington.edu">ryscheng@cs.washington.edu</a> <a href="https://raymondcheng.net">https://raymondcheng.net</a> Networks Laboratory Computer Science and Engineering University of Washington Box 352350 Seattle, WA 98195 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.
EDUCATION	<b>University of Washington</b> , Seattle, WA <span style="float:right">expected 2017</span> Ph.D. Candidate in Computer Science and Engineering • Thesis: <i>Security and Privacy for Cloud Applications</i> • Advisor: Prof. Thomas Anderson and Prof. Arvind Krishnamurthy M.S. in Computer Science <b>Massachusetts Institute of Technology</b> , Cambridge, MA M.Eng. in Electrical Engineering and Computer Science <span style="float:right">2010</span> • 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 <span style="float:right">2009</span> B.S. in Physics <span style="float:right">2009</span>
PROFESSIONAL EXPERIENCE	<b>National Security Agency</b> <span style="float:right">Maryland</span> <i>Laboratory for Telecommunications Sciences</i> <span style="float:right">Aug 2005 - Apr 2011</span> • Technical lead in a large program to secure critical telecommunications networks. <b>Microsoft Research Asia</b> <span style="float:right">Beijing, China</span> <i>System Research Group</i> , Dr. Lidong Zhou <span style="float:right">Apr 2011 - Aug 2011</span> • Research Intern <b>Google</b> <span style="float:right">New York, NY</span> <i>Search Quality</i> , Michael Schueppert and Mayur Thakur <span style="float:right">Jun 2012 - Sep 2012</span> • Software Engineer Intern <i>Google Ideas</i> , Lucas Dixon and Jared Cohen <span style="float:right">Sep 2014 - Jan 2015</span> • Software Engineer Intern
TEACHING EXPERIENCE	<b>UW Computer Science and Engineering</b> • Distributed Systems (CSE452) Teaching Assistant <span style="float:right">(Thomas Anderson)</span> • Computer Systems (CSE550) Teaching Assistant <span style="float:right">(Arvind Krishnamurthy)</span> • Networks Seminar (CSE590L) Coordinator • Robotics Systems Seminar (CSE590RS) Coordinator <b>UW Bioengineering Department</b> • Neural Engineering (BIOEN498C) Teaching Assistant <span style="float:right">(Albert Folch)</span>

OPEN SOURCE  
PROJECTS**Talek**

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

**uProxy**

- Website: [uproxy.org](http://uproxy.org)
- Source Code: <https://github.com/uProxy/uProxy>

**Radiatus**

- Website: [radiatus.io](http://radiatus.io)
- Source Code: <https://github.com/freedomjs/radiatus>

**freedom.js**

- Website: [freedomjs.org](http://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., Scott, W., Parno, B., Zhang, I., Krishnamurthy, A., Anderson, T. *Talek: a Private Publish-Subscribe Protocol*. In submission.
- [2] 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
- [3] 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.
- [4] Bhorkar, 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.
- [5] 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.
- [6] 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

- [7] 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.
- [8] 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.
- [9] 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

- [10] 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

- [11] **Radiatus: a Shared-Nothing Server-Side Web Architecture.**
  - SOCC: ACM Symposium on Cloud Computing. Santa Clara, CA. Oct 2016
- [12] **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
- [13] **User scripting on Android using BladeDroid**
  - APSYS: ACM Asia-Pacific Workshop on Systems. Beijing, China. Jun 2014
  - Microsoft Research Asia. Beijing, China. Jun 2014
- [14] **uProxy: Crowdsourcing in the Face of Digital Repression**
  - Google Ideas Summit. New York, NY. Oct 2013
  - YouTube. <http://www.youtube.com/watch?v=aGOXMRJWSeg>
- [15] **FreeDOM: a New Baseline for the Web**
  - HotNets XI: Hot Topics in Networks. Redmond, WA. Oct 2012
- [16] **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
- [17] **Donor Appreciation Speech**
  - UW CSE Donor Luncheon. Seattle, WA. Apr 2012

## PRESS

**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](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 friends 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	• James Liu	2015-2016
	• Elizabeth Wei	2014
	• Bonnie Pan	2014
	• Nick Martindell	2013-2014
	• Paul Ellenbogen	2013-2014
	• Tariq Yusuf	2012-2014
	• Caylan Lee	2012-2013
	• Nicholas Shahan	2012-2013

## REFERENCES

**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