

**EDUCATION**

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<b>UCSD</b> M.S. in Computer Science, March 2009	San Diego, California GPA: 4.00
<b>UCLA School of Law</b> J.D., May 2003	Los Angeles, California GPA: 3.60
<b>Stanford University</b> B.A. in Political Science, Minor in Computer Science, March 1999	Palo Alto, California GPA: 3.65

**TECHNICAL SUMMARY**

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- *Languages:* JavaScript, CoffeeScript, Python, C/C++, C#, Java, Bash, and SPARC assembly.
- *Cloud:* Amazon Web Services (AWS), Rackspace Cloud, Windows Azure, and Google AppEngine.
- *Web:* Node.js, Django, React, Backbone.js, Webpack, AMD / CommonJS, REST.
- *Backend:* Hadoop, Solr, Elasticsearch, SQL, MongoDB, Redis, Memcached, and others.

**EXPERIENCE**

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**Formidable Labs** Seattle, Washington  
*CTO and Co-founder* 7/13 – Present

- Leading JavaScript design / infrastructure for top-five ecommerce site with team of 50+ engineers.
- Led web application development workshops for conferences, businesses, and tech community.
- Built full-stack web prototypes and test / development infrastructures for various startups. Provided additional technology trainings and ongoing development work / guidance.

**Curiosity Media** Arlington, Virginia  
*Director of Engineering* 1/12 – 7/13

- Lead development and operations for SpanishDict.com, the world's largest Spanish learning site.
- Developed responsive, full-stack adaptive learning platform with Backbone.js, Node.js, and MongoDB.
- Architected Hadoop data mining, Node.js backend API service, end-to-end testing, and other projects.
- Transitioned entire system to Amazon cloud, with hot failover for all critical systems, leveraging EC2, Elastic MapReduce, Elastic Load Balancers, RDS, S3, ElastiCache, Route 53 and Opscode Chef.

**IP Street** Seattle, Washington  
*Senior Engineer* 8/10 – 12/11

- Developed frontend and backend technologies for cloud-scale intellectual property analytics system and data store backed by various frameworks, databases, search, and messaging tools.
- Implemented sharded Solr search system with advanced query, faceting, and statistics support.
- Created custom frontend test infrastructure for browser-less JavaScript / AJAX testing.

**Microsoft** Redmond, Washington  
*Software Development Engineer II, Cloud Infrastructure Services* 3/09 – 8/10

- Developed and hardened backend services and components of Windows Azure storage service.
- Created scalable logging, deployment, and reporting frameworks, used by various internal projects.
- Led threat model and security assessments of the storage platform for public release.

**UCSD** San Diego, California  
*Graduate Student Researcher* 9/07 – 3/09

*Advisors:* Geoff Voelker, Stefan Savage, Hovav Shacham

- Extended "return-oriented programming" buffer overflow exploit research to SPARC. Developed C API for proof-of-concept exploits and Python disassembly / exploit discovery and search tool.
- Enhanced internal structures of Xen/Qemu virtual machine data tracking system using C and Python.

**EXPERIENCE** (*Cont'd*)

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- Google** Irvine, California  
*Software Engineering Intern* 6/08 – 9/08
- Developed back-end auction analysis library for Google Audio Ads using Java and Protocol Buffers.
  - Created AJAX web front-end interface using Google Web Toolkit and Java servlets.
- Intuit** San Diego, California  
*Software Engineering Intern* 7/07 – 9/07
- Developed cross-platform portable library code samples for Foundations team in Java and C#.
- Morrison & Foerster** San Diego, California  
*Patent Attorney* 10/03 – 5/06  
*Summer Associate* 5/02 – 8/02
- Litigated patent / copyright cases and prosecuted patent applications in computer / life sciences areas.
  - Advised software clients regarding patent portfolio assertion and open source licensing.
  - Licensed in California (currently inactive) and with the U.S. Patent and Trademark Office.
- Enterprise Design Group** San Diego, California  
*Software Engineer* 9/99 – 6/00
- Developed web applications for business clients using Cold Fusion, Perl, C, Informix, and MS SQL.

**PUBLICATIONS***Computer Science*

- Ryan Roemer, *Backbone.js Testing*, Packt Publishing, Jul. 2013 (<http://backbone-testing.com/>).
- Ryan Roemer, Erik Buchanan, Hovav Shacham, and Stefan Savage, *Return-Oriented Programming: Systems, Languages, and Applications*, ACM Trans. Info. & Sys. Security 15(1):2, Mar. 2012.
- Ryan Roemer, *Finding the Bad in Good Code: Automated Return-Oriented Programming Exploit Discovery*, M.S. thesis, University of California, San Diego, 2009.
- Erik Buchanan, Ryan Roemer, Hovav Shacham, and Stefan Savage, *When Good Instructions Go Bad: Generalizing Return-Oriented Programming to RISC*, In Proceedings of CCS 2008, p. 27-38. ACM Press, Oct. 2008.

*Law*

- Richard Kim, Ryan Roemer, *Shifting Ground: Technology in a Post-Grokster World*, San Diego Lawyer (Jan./Feb. 2006), p.18-22.
- Michael Vella, Ryan Roemer, *Open Source Software: Assessing the IP Risks*, IP Law Bulletin (2005).
- Ryan Roemer, *Locking Down Loose Bits: Trusted Computing, Digital Rights Management, and the Fight for Copyright Control on Your Computer*, 2003 UCLA J.L. & Tech. 8.
- Ryan Roemer, *The Digital Evolution: Freenet and the Future of Copyright on the Internet*, 2002 UCLA J.L. & Tech. 5.

**ACTIVITIES AND AWARDS****UCSD**

- Awards: • TA Excellence Award, 2006-07
- Groups: • Systems and Networking Group; Security and Cryptography Group; Center for Networked Systems

**UCLA School of Law**

- Awards: • Order of the Coif (*Top 10% of Class*); White O'Connor Top Moot Court Team
- Journal: • *UCLA Journal of Law and Technology*, Chief Technology Editor
- Activities: • *Student Bar Association*, various technology committees, 2000-03