

## Leeann Bent

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### Refereed Publications

L. Bent, M. Rabinovich, G. M. Voelker and Z. Xiao. Towards Informed Content Delivery. In *The Ninth International Workshop on Web Content Caching and Distribution*. October 2004.

L. Bent, M. Rabinovich, G. M. Voelker and Z. Xiao. Characterization of a Large Web Site Population with Implications for Content Delivery. In *The Thirteenth International World Wide Web Conference*. Winner of Best Student Paper Award. May 2004.

A. Mogilner, L. Edelstein-Keshet, L. Bent, A. Spiros. Mutual interactions, potentials, and individual distance in a social aggregation, *J. Math. Biol.* **47**, 353-389 (2003)

L. Bent and G. M. Voelker. Whole Page Performance. In *Proceedings of the 7th International Web Content Caching and Distribution Workshop*. August 2002.

### Unrefereed Publications

L. Bent. [Reengineering Cocoon with AspectJ](#). Technical Report CS2001-0682, University of California, San Diego, Computer Science and Engineering, 2001.

L. Bent, D. C. Atkinson, W. G. Griswold. [A Comparative Study of Two Whole Program Slicers for C](#). Technical Report CS2001-0668, University of California, San Diego, Computer Science and Engineering, 2001.

L. Bent. [Mathematical Modeling of Groups of Organisms](#). Advised by Alexander Mogilner. Undergraduate honors thesis, University of California, Davis, Department of Mathematics. May 1998.

### Experience

3/2001 – Present                      University of California, San      San Diego, CA  
Diego

#### Graduate Student Researcher

Advisor: Geoffrey M. Voelker

Studied web site performance characteristics and the effect of using a CDN on web site performance. Designed tool to improve web site performance.

Redesigned and re-implemented the Medusa proxy, a client proxy that is used to measure the effects of performance optimizations on whole web page performance by recording and replaying traces. Studied the behavior of parallel connections in two popular web browsers. Presented work at the 7<sup>th</sup> International Workshop on Web Content Caching and Distribution.

Re-engineered the Squid web cache to transparently cache peer-to-peer content, in addition to web content. Found bugs and proposed bug fixes for the Squid web cache 3.0. Modified connection behavior of SOCKSv5 server source code. Simulated cache replacement policies for peer-to-peer objects.

Languages/technologies used: C, C++, Java, Perl, Shell Scripting (c, sh), socket

programming (C and Java), iptables, netfilter, ipconfig, ip forwarding, web caching, transparent web caching, Bugzilla, ethereal, tcpdump, netstat, arp, httpd (Apache web server), Polygraph, Surge, Layers 4-7 switching, Windump, SOCKSv5, peer-to-peer protocols, DNS, Bind, traceroute, HTTP, CDNs, jgraph, Powerpoint, matlab.

6/2003 – 10/2003                      AT&T Shannon Lab                      Florham Park, NJ

**Summer Manager**

Supervisor: Michael Rabinovich

Designed tool to recommend performance optimizations for web sites. Added features to CDN benefit analysis code. Built tool to probe web sites for properties of web objects. Built C program to match HTTP requests with HTTP responses from TCP trace data. Managed large data sets. Analyzed performance characteristics of trace data and presented results.

Language/technologies used: C, Perl, Shell Scripting, libwww, Webalyzer, wget.

6/2000 - 9/2000                      Xerox PARC                      Palo Alto, CA

**Student Intern**

Supervisor: Cristina Videira Lopes

Re-engineered a large body of open source code (Apache Cocoon web publishing framework) using the AspectJ programming language. Outlined and documented a set of design templates for AspectJ. Tested Apache Cocoon web publishing framework for use in AspectJ documentation.

Language/technologies used: Java, AspectJ, Apache Cocoon, XML, XSP, XSL, XML, Xerces, Xalan XSLT processor, TogetherJ, JBuilder, DOM, SAX, UML, Design Patterns.

3/1999 – 6/2000                      University of California, San Diego                      San Diego, CA

**Graduate Student Researcher**

Advisor: William G. Griswold

Conducted a comparative study of two whole program slicers: Sprite and CodeSurfer. Created micro-benchmarks to look at slicer features. Used macro-benchmarks (the C-source for compress, ispell, ed, and diff) to look at time-precision tradeoffs.

Languages/technologies used: C, Perl, Shell Scripting (c, sh), Sprite, CodeSurfer.

4/1998 – 9/1998                      IBM Corporation                      San Jose, CA

**Co-Op Student**

Supervisor: David Raiman

Bug finding on parser/pre-compiler for SQL database, dB.

Languages/technologies used: PL/I, PL/X, SQL, OS/2.

6/1997 - 9/1997                      Lawrence Livermore National Lab                      Livermore, CA

**Computations Intern**

Supervisor: Shawn Larsen



award at the 13<sup>th</sup> International World Wide Web conference.

06/2002 University of California, San Diego

**Master's Degree**

M.S. in Software Engineering.

Advisor: William G. Griswold

GPA: 3.94

Re-engineering an existing code base (the Cocoon web publishing system) in AspectJ. Conducted a comparative study of whole program slicers.

Courses taken: Topics in Communication Networks, Statistical Natural Language Processing, Advanced Unix Programming, System Services in the WWW, Parallel Computation, System Support for Parallel Applications, Principals of Software Engineering, Advanced Compiler Design, Computability and Complexity, Principles of Programming Languages, Algorithm Design and Analysis, Operating Systems, Principles of Computer Architecture.

Honors and Awards: San Diego Fellowship 1998 – 2000

6/1998 University of California, Davis

**Bachelor's Degree**

B.S. in Computer Science and B.S. In Mathematics

GPA: 3.79

Undergraduate research and senior honors thesis in Mathematical Biology.

Honors and Awards: Highest Honors Mathematics, High Honors Computer Science, Society of Women Engineers Scholarship, Regents Scholar 1995-1997, Luther and Marie Davis Scholarship, Robert and Loose Jameson Scholarship, Henry A. Castro Scholarship, Dean's List: Fall 1993-Winter 1995 and Fall 1995-Winter 1998, Golden Key, Pi Mud Epsilon, Phi Kappa Phi

<b>Skills</b>	<b>Skill Name</b>	<b>Skill Level</b>	<b>Last Used</b>	<b>Experience</b>
	Java	Expert	1 year ago	7 years
	HTTP	Expert	Currently Used	4 years
	Web Caching	Expert	Currently Used	4 years
	Content Delivery	Expert	Currently Used	4 years
	WWW System Services	Expert	Currently Used	4 years
	C	Expert	Currently Used	10 years
	Perl	Intermediate	Currently Used	8 years
	C++	Intermediate	5 months ago	6 years
	Shell Scripting (c/sh)	Intermediate	Currently Used	6 years
	Networking	Intermediate	Currently Used	3 years