

Curriculum Vitae

1 Personal Information

Name: Nadav Eiron
Address: 6558 Scenery Ct.
San Jose, CA 95120
Immigration status: Legal Permanent Resident
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2 Awards

- IBM Research Division Award for Contributions to Webfountain Technology and Support in Customer Engagements. December 2002.
- Best paper award - Twelfth International World Wide Web Conference, 2003.
- IBM First Patent Application Invention Achievement Award. October 2003.

3 Publications

- Andrei Z. Broder, Nadav Eiron, Marcus Fontoura, Michael Herscovici, Ronny Lempel, John McPherson, Runping Qi, and Eugene J. Shekita, *Indexing Shared Content in Information Retrieval Systems*. Proceedings of the 10th International Conference on Extending Database Technology (EDBT 2006), pp. 313–330, 2006.
- Pavel A. Dmitriev, Nadav Eiron, Marcus Fontoura, and Eugene Shekita, *Using Annotations in Enterprise Search*. Proceedings of the 15th International World Wide Web Conference (WWW2006), pp. 811–817. May 2006.
- Chavdar Botev, Nadav Eiron, Marcus Fontoura, Ning Li, and Eugene J. Shekita, *Static Score Bucketing in Inverted Indexes*. Proceedings of the 14th Conference on Information and Knowledge Management (CIKM 2005), pp. 311–312.
- Nadav Eiron and Kevin S. McCurley, *Link Structure of Hierarchical Information Networks*. Third Workshop on Algorithms and Models for the Web-Graph (WAW2004), Lecture Notes in Computer Science vol. 3243, pp. 143–155.
- Nadav Eiron, Kevin S. McCurley, and John A. Tomlin, *Ranking the Web Frontier*. Proceedings of the Thirteenth International World Wide Web Conference, pp. 309–318, 2004.
- Stephen Dill, Nadav Eiron, David Gibson, Daniel Gruhl, R. Guha, Anant Jhingran, Tapas Kanungo, Kevin. S. McCurley, Sridhar Rajagopalan, Andrew

- Tomkins, John A. Tomlin and Jason Y. Zien, *A Case for Automated Large Scale Semantic Annotation*. Journal of Web Semantics, 1(1), December 2003.
- Nadav Eiron and Kevin S. McCurley, *Untangling Compound Documents on the Web*. Proceedings of the Fourteenth ACM Conference on Hypertext and Hypermedia, pp. 85-94, 2003.
 - Nadav Eiron and Kevin S. McCurley, *Analysis of Anchor Text for Web Search*. Proceedings of SIGIR'03, pp. 459-460, 2003.
 - Stephen Dill, Nadav Eiron, David Gibson, Daniel Gruhl, R. Guha, Anant Jhingran, Tapas Kanungo, Sridhar Rajagopalan, Andrew Tomkins, John A. Tomlin and Jason Y. Zien, *SemTag and Seeker: Bootstrapping the semantic web via automated semantic annotation*. Proceedings of the Twelfth International World Wide Web Conference, 2003.
 - Nadav Eiron and Kevin S. McCurley, *Locality, Hierarchy, and Bidirectionality in the Web*. Second Workshop on Algorithms and Models for the Web-Graph (WAW2003), May 2003.
 - Nader H. Bshouty and Nadav Eiron, *Learning Monotone DNF from a Teacher that almost does not answer Membership Queries*. Journal of Machine Learning Research, 5, pp. 49-57, 2002. Extended abstract in Proceedings of the 14th Annual Conference on Computational Learning Theory, pp. 546-557, 2001.
 - Shai Ben-David, Nadav Eiron and Hans U. Simon, *Limitations of Learning Via Embeddings in Euclidean Half Spaces*, Journal of Machine Learning Research, 3, pp. 441-461, 2002. Extended abstract in Proceedings of the 14th Annual Conference on Computational Learning Theory, pp. 385-401, 2001.
 - Shai Ben-David, Nadav Eiron and Philip M. Long, *On the Difficulty of Approximately Maximizing Agreements*, Journal of Computer and System Sciences, 66(3), pp. 496-514, 2003. Extended abstract appeared in Proceedings of the 13th Annual Conference on Computational Learning Theory, pp. 266-274, 2000.
 - Shai Ben-David, Nadav Eiron and Hans U. Simon, *The Computational Complexity of Densest Region Detection*. Journal of Computer and System Sciences, 64(1), pp. 22-47, 2002. Extended abstract in Proceedings of the 13th Annual Conference on Computational Learning Theory, pp. 255-265, 2000.
 - Nader H. Bshouty, Nadav Eiron and Eyal Kushilevitz, *PAC Learning with Nasty Noise*. Theoretical Computer Science, 288(2), pp. 255-275, 2002. Extended abstract appeared in: Proceedings of the tenth Annual Conference on Algorithmic Learning Theory, Lecture Notes in AI, Osamu Watanabe and Takashi Yokomori (Eds.) pp. 206-218, 1999.

- Nadav Eiron, Michael Rodeh and Iris Steinwarts, *Matrix Multiplication: A Case Study of Enhanced Data Cache Utilization*. ACM Journal of Experimental Algorithms, 4, 1999. An extended abstract appeared as: *Matrix Multiplication: A Case Study of Algorithm Engineering*. Proceedings of the second Workshop on Algorithm Engineering WAE'98, Kurt Melhorn (Ed.), Research report MPI-I-98-1-019, pp. 98–109, Max-Planck Institut für Informatik, Saarbrücken, Germany, 1998.
- Shai Ben-David and Nadav Eiron, *On Self-Directed Learning and its Relation to the VC-Dimension and to Teacher-Directed Learning*. Machine Learning 33(1), pp. 87–104, 1998. An early version appeared as: S. Ben-David, N. Eiron and E. Kushilevitz, *On Self-Directed Learning*. Proceedings of the 8th Annual Conference on Computational Learning Theory, pp. 136-143, 1995.

4 Patents

- Nadav Eiron, Daniel M. Meredith, Joerg Meyer, Andrew Tomkins: “Method and Framework to Support Indexing and Searching Taxonomies in Large Scale Full Text Indexes”. Application filed Spetember 2005.
- Andrei Z. Broder, Nadav Eiron, Marcus Fontoura, Michael Herscovici, Ronny Lempel, John McPherson, Eugene Shekita: “Indexing and Searching of Electronic Message Transmission Thread Sets”. Application filed August 2005.
- Nadav Eiron, Kevin S. McCurley and John A. Tomlin: “System and Method for Ranking Logical Directories”. Application filed May 2004.
- Nadav Eiron, Kevin S. McCurley and John A. Tomlin: “System and Method for Ranking Nodes in a Network”. US Patent 7,251,654. Granted July 31, 2007.
- Nadav Eiron and Kevin S. McCurley: “System, Method and Computer Program Product for Identifying Multi-Page Documents in Hypertext Collections”. Application filed October 2003.

5 Education

1996–2000 **Ph.D.**

Department of Computer Science, Technion — Israel Institute of Technology, Haifa, Israel

Research Title Computational Learning in Models for Noisy Environments.

Advisors Assoc. Prof. Shai Ben-David and Assoc. Prof. Eyal Kushilevitz.

1992–1996 **M.Sc. in Computer Science**

Department of Computer Science, Technion — Israel Institute of Technology, Haifa, Israel

Research Title Variants of Mistake Bound Learning Algorithms.

Advisor Assoc. Prof. Shai Ben-David.

1987–1990 **B.Sc., cum Laude, in Computer Science**

Department of Computer Science, Technion — Israel Institute of Technology, Haifa, Israel

Once on President's List, twice on Dean's List.

6 Work Experience

- 2005–present Google Inc.
- 2003–2005 IBM Almaden Research Center
Trevi
Researcher with the Trevi team involved in research on future directions and applications of text and XML search technology.
- 2000–2003 IBM Almaden Research Center
WebFountain
- One of the technical leads for a custom engagement for WebFountain. Work includes architecting the back end for most applications in a custom-built application suite designed to process web-scale data, as well as implementing and maintaining many of those components.
 - Coding standards leader – responsible for setting coding conventions and enforcing them via code reviews.
 - Technical lead for the development of a DB2 based semi-structured high performance data store.
 - Technical lead for a distributed high-performance cache implementation.
 - Low level utilities design/development – One of the technical leads for the design and development of the low level libraries used throughout WebFountain. Facilities provided by these libraries include data structures, basic algorithms (pattern matching, memory management, synchronization, etc.), and development support (error reporting, execution tracing, etc.).
- 1998–2000 Technion — Israel Institute of Technology, Haifa, Israel
Teacher
Teaching courses in the undergraduate level: Introduction to Digital Systems and Introduction to System Programming.
- 1998–present LibAgent — A free web service.
Chief Maintainer
LibAgent (see <http://www.libagent.org/>) is a web site that provides free services to the readers of many academic libraries in Israel. I am responsible for the day to day maintenance, including user support, as well as for software development. The software is written in Perl and uses a PostgreSQL relational database. I have also set up a dedicated server, running FreeBSD, to host the service. During this period the service has grown to serve over 10000 subscribers.

- 1996–1998 Technion — Israel Institute of Technology, Haifa, Israel
Teaching Assistant
 Teaching assistant in courses on: Advanced Logic, Automata Theory, Discrete Math, Computer Networking, Computational Learning Theory and Communication Complexity.
- 1996, Summer Bar-Code Computers Ltd., Haifa, Israel
Programmer
 Involved in a variety of projects in the following areas:
- Real Time image processing under Windows NT. Including writing a device driver for a B/W camera and hand-optimizing image processing algorithms.
 - An interactive Web Site. CGI scripts written in Perl 5 on a FreeBSD web server with network connection to a multi-threaded server, implemented using Borland C++ on an NT Server machine running MS SQL server.
 - Design work for a remote management and diagnostics project. The project included interfacing with a management station (running OS/2) to a variety of machines (including DOS, OS/2 and IRIX) and diagnosing their hardware and software automatically.
- 1994–1996 IDF, Israel
Programming Officer
 Involved in the design and initial implementation phases of the data distribution subsystem for a large software project. This subsystem implements a distributed database with unique requirements of reliability and stability and coherency over low-bandwidth WANs. Implemented in Ada on an OpenVMS platform, using DECmessageQ and FastCOPY as the communication layer.
 In this capacity I was also involved in the design of the network over which the system was to be later deployed. This included addressing issues of performance, management and security, among others.
- 1994–1996 IDF, Israel
Programming Officer
 Acting as system manager for the development site of a large software project. Responsible for the management of a network of about 50 desktops, including X terminals and NT based workstations, as well as servers running VMS.

1992–1994 IDF, Israel

Team Leader

Commander of a team of 3–5 software developers, in charge of maintaining a software package for graphical and geographical applications. The package included both callable services used by other applications and stand alone utilities. This package was written in Ada in a VAX/VMS environment. The activities of the team while I was its commander included:

- Porting the library and associated applications from DEC XUI environment to OSF/Motif.
- Adding a caching server that greatly enhanced performance for displaying maps using this library.
- Adding a driver to the library to allow the use of PostScript Level II hard-copy devices in a way transparent to the applications.
- Designing and implementing an interface between the internal format used by this software package and a similar package used by other systems within the IDF, allowing them bidirectional exchange of operational information.
- Adding support for using ADABAS for storing geographical information.

1991–1992 IDF, Israel

Programming Officer

Part of a team developing and maintaining a software package for graphical and geographical applications, written in Ada and running in a VAX/VMS environment. Involved in the design and implementation of heuristic algorithms, including the use of various advanced data structures.

1991 IDF, Israel

Programming Officer

Part of a team developing an application for the management and control of a large distributed software system in the VAX/VMS environment. This management application was designed to allow hierarchical control and monitoring over a wide-area network of multiple VAXclusters. Written mostly in VAX Pascal.

1988–1990 Bar-Code Computers Ltd., Haifa, Israel

Programmer

Design of a distributed system for the control of industrial equipment. The system was based on controllers using the NEC V25 CPU (iAPX86 architecture), and included design of communication protocols, real time software, and some hardware accessories.

Development of a commercial, shrink-wrapped software package for project management for civil engineering and building projects for the MS-DOS environment. Written in Microsoft C using Btrieve. Also involved in the development of an interactive Hebrew spelling checking program for MS-DOS, primarily responsible for issues of integration, user interface, and the interaction with MS-DOS of the TSR version of the software.