

Erik L. Nygren

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<http://www.mit.edu/people/nygren/>

- Objective** Currently employed and not looking to move.
- Education**
- Massachusetts Institute of Technology, Cambridge, MA** 1998—1999
PhD student in Computer Science and Engineering. Completed Oral Qualifying Examinations.
- Massachusetts Institute of Technology, Cambridge, MA** 1992—1998
Bachelor's and Master's of Engineering in Computer Science and Engineering with undergraduate GPA of 4.9/5.0 and graduate GPA of 5.0/5.0.
- Graduate and undergraduate course-work covering computer systems, software engineering, programming languages and compiler engineering, artificial intelligence, computer graphics, human factors engineering, digital electronics, algorithms, probability, signal processing, writing, psychology, and core math and science.
- Redwood High School, Larkspur, CA** 1988—1992
Class Valedictorian and National Merit Finalist.
- Skills**
- Extensive experience with C, Perl, Python, Java, software engineering, UNIX software development, and Linux system administration.
- Experience with many other programming and scripting languages, Web development, computer graphics and user interfaces, network programming, Internet protocols, mobile code systems, Linux kernel programming, digital electronics, embedded and real-time systems, virtual environments, and hardware/software systems integration. Experience working with teams through all aspects of the software development cycle.
- Experience**
- Akamai Technologies**
Chief Systems Architect, Networks and Operations June 1999—present
Systems Architect focusing on operations, scalability, security, and reliability. Involved in the design and operations of large-scale distributed systems. (Previous titles included Senior Developer, Senior Systems Engineer, Senior Architect, and Principal Architect.)
- MIT Laboratory for Computer Science**
Graduate Research Assistant Fall 1997—Spring 1999
Worked for Professor M. Frans Kaashoek in the Parallel and Distributed Operating Systems group. Designed and implemented PAN, a high-performance active network system that can use multiple mobile code systems.
- MIT**
Teaching Assistant for "Software Engineering" course Spring 1998
Assisted in the teaching and administration of 6.170, MIT's undergraduate software engineering course.
- Fourth Planet**
Co-Founder and VP of Engineering 1996
Co-founded a NASA spin-off start-up company. Fourth Planet provided tools and services for the real-time 3D visualization of dynamic systems, including computer networks. Worked on the design of the company's core technology, ported VEVI (a

3D visualization product) to Windows NT, configured and administered the company's workstations and servers.

NASA Ames Intelligent Mechanisms Group

Contractor with Recom Technologies

Summer 1994 and 1995

Worked with Butler Hine and Terry Fong. Responsible for initial design and development of the kernel for VEVI 3, the Virtual Environment Vehicle Interface software which may be used in future space missions. VEVI, one of the core technologies of the IM Group, was selected as the first runner-up for the 1996 NASA Software of the Year Award. Received a NASA Space Act Award for work on VEVI. Developed and maintained the web site for the 1994 Dante II mission to Mt. Spurr and performed other system administration tasks. Managed and worked on a project to design and build a small, low-cost mobile robot.

MIT Virtual Environment Technology For Training Testbed

UROP Researcher

October 1993—June 1994

Worked in the RLE VETT Testbed with David Zeltzer and Walter Aviles. Designed a system for communication between the components of a Virtual Environment system.

NASA Ames Intelligent Mechanisms Group

Student Intern under SJSU Program

Summer 1993

Worked with Butler Hine and Terry Fong on the TROV, a submersible remotely operated vehicle sent to Antarctica in Fall 1993. Numerous other projects included distributed virtual environment research.

NASA Ames VIEW Lab

AIAA Galileo Fellow

Summer 1992

Worked with Stephen Ellis to develop software for virtual environment systems. Designed and implemented a driver and static gesture recognizer for VPL's Data Glove.

Personal Projects and Activities

Member, MIT Student Information Processing Board (SIPB). Five years on the SIPB Executive Committee. Maintained software installations and provided volunteer consulting.

Involved in supporting, advocating, and developing free software for the Linux operating system. Coordinated development of the P9000 video chipset driver distributed with XFree86.

Developed and instructed for four years an MIT IAP seminar entitled "Introduction to UNIX Software Development".

Staff member for the MIT IHTFP Online Hack Gallery.

Other interests include the creation of art, reading, creative writing, cooking, hiking, skiing, bicycling, camping, software engineering, electronics, and amateur radio.

Talks

Erik Nygren, "Experiences with Scalable Network Operations at Akamai", USENIX LISA 2007, Dallas TX. (<http://www.usenix.org/events/lisa07/tech/tech.html#nygren>)

Papers and Publications

E. Nygren, S. Garland, and M.F. Kaashoek, "PAN: A High-Performance Active Network Node Supporting Multiple Mobile Code Systems", In proceedings *IEEE OPE-NARCH'99*, March 1999.

E. Nygren, "The Design and Implementation of a High-Performance Active Network Node", MIT Master's Thesis, February 1998.

L. Piguet, B. Hine, P. Hontalas, T. Fong, and E. Nygren, "The Virtual Environment Vehicle Interface: A Dynamic, Distributed And Flexible Virtual Environment", In

proceedings *Imagina 96*, February 1996.

T. Fong, H. Pangels, D. Wettergreen, E. Nygren, B. Hine, P. Hontalas, and C. Fedor, "Operator Interfaces and Network Based Participation for Dante II", SAE 25th International Conference on Environmental Systems, July 1995.

B. Hine, P. Hontalas, L. Piguet, T. Fong, and E. Nygren, "VEVI: A Virtual Environment Teleoperations Interface for Planetary Exploration", SAE 25th International Conference on Environmental Systems, July 1995.

L. Piguet, T. Fong, B. Hine, P. Hontalas, and E. Nygren, "VEVI: A Virtual Reality Tool for Robotic Planetary Explorations", Virtual Reality World 95, February 1995.

D. Zeltzer, W. Aviles, R. Gupta, J.F. Lee, E. Nygren, J. Pfautz, N. Pioch, and B. Reid, "Virtual Environment Technology for Training: Core Testbed", Annual Report prepared for Naval Air Warfare Center Training Systems Division, MIT Research Laboratory of Electronics, Cambridge, MA, May 1994.

B. Hine, C. Stoker, M. Sims, D. Rasmussen, P. Hontalas, T. Fong, J. Steele, D. Barch, D. Andersen, E. Miles, and E. Nygren, "The Application of Telepresence and Virtual Reality to Subsea Exploration", The 2nd Workshop on Mobile Robots for Subsea Environments, In proceedings *ROV 94*, May 1994.