

Karl Nyberg

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Summary

- Experienced software / systems architect in design, development and deployment of scalable, distributed, fault-tolerant, transaction processing systems on UNIX (Linux, Solaris, AIX) with SQL databases (Oracle, MySQL, VoltDB) using Ada, C/C++, DSD, Java in diverse application domains (banking, air traffic control, operating system computer security, telecommunications, image processing).
- Formal methods of programming languages (parsing, theorem proving, static code analysis), automation, writing / evaluation (requirements, specifications, design, code, documentation)
- Interoperation among programming language (Ada, C/C++, Fortran, Java) standards (CORBA), communications protocols (HTTP, TCP/IP, SMTP, RADIUS, DIAMETER), image / data formats (OFX / IFX, XML, PDF, Postscript, TIFF, ESRI Shapefile, HDF).

Education

Massachusetts Institute of Technology Cambridge, MA

- Master's degree in Electrical Engineering and Computer Science
Thesis: [A Methodology for Using Algebraic Specifications](#)
- Bachelor's degree in Computer Science and Engineering
Thesis: [An Experiment in Using Algebraic Specifications](#)

Stanford University (virtual via Coursera)

- [Machine Learning](#)

University of Minnesota (virtual via Coursera)

- Introduction to Recommender Systems

Awards

- [ACM SIGAda Ada Community Contributions Award](#), November, 2007
- Sun Microsystems "Open Performance Contest" winner for "[A Constructive Approach to Integer Factorization](#)" January 2007
- [IEEE POSIX Pioneer award](#), March 1988

Professional

- ACM Senior Member, ACM SIGAda (Baltimore / DC Chair)
- US SC22 JTC1 TAG / ISO IETC J22 - Java Study Group (1997 - 1999)
- Federal Advisory Board on Ada (1990 – 1992)
- Ada 9X Requirements Team (1989 – 1990)
- IEEE Technical Committee Operating Systems P1003.1 (1986 – 1988)

Certifications

- [COMPTIA Security+ 1159M8QJVC14S5PJ](#), to September 2017

Experience August 1985 – Present Grebyn Corporation Sterling, VA

Projects: Local, national and international projects ranging from single day to multi-year efforts covering the entire software lifecycle. Newsletters, CDs and books on Ada. Publications listed below and [Google Scholar](#).

Major Clients: Booz Allen Hamilton, Convergys, CSC, Global Protocols, Inc., Honeywell Federal Systems, IBM, Institute for Defense Analyses, Lockheed Martin, Openet Telecom, SAIC, Telos Corporation, VISA.

May 2018 – Sep. 2018 EPAM Inc McLean, VA

Senior Software Developer

- Part-time effort for SalesForce. Migrated Formula Engine from ANTLR 2.7 to ANTLR 4.7.1. Development environment was Apple Macintosh with git, maven, ant, Java.

Oct. 2010 – Nov. 2011 HTSI/Defense & Space Greenbelt, MD

Program Manager 5 (SME) (L)

- Temporary, part-time, on-call support for Near Earth Network Services.

Aug. 2005 – Dec. 2005 Geologics Alexandria, VA

Ada Software Engineer / Software Auditor

- Part-time software review of En Route Automation Modernization on IBM AIX with OC Systems Ada compiler.

Jan. 1983 – May 1986 Verdix Corporation Chantilly, VA

Various Senior Technical Positions

- Created initial concept of Verdix Secure Local Area Network (VSLAN).
- Authored winning Small Business Innovation Research (SBIR) Phase I proposal for Network Security Devices (later productized as VSLAN).
- Administered computing facilities and supervised junior staff.
- Verdix Ada Development System (VADS) product development, quality assurance and customer support.