Jon C. Snader

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Objective

SOFTWARE ENGINEER in a UNIX® networking/communications environment, especially a challenging position requiring comprehensive hardware and software knowledge and programming at the machine or system level.

Professional Experience

My experience includes work in communications, networking, compiler development, operating systems, and application development. My latest work has been in NT and UNIX based interfaces to wireless data networks and to state law enforcement message switches. The state interfaces are in support of Paradigm4's SmartPartner network that allows officers to run queries from two-way pagers.

For my last employer, I designed and built UNIX based radio network controllers. These controllers managed traffic flow in a wireless data network. I was also the the principal designer of the overall system architecture, message passing subsystem, and the transport, fragmentation, routing, compression, and encryption layers of MLA04, a portable multilayered communication stack for mobile data communications. MLA04 supports multiple concurrent applications, each with its own customizable stack, as well as multiple RF service providers on the same mobile computer. The initial version of MLA04 ran on in-vehicle computers under the Windows 95 operating system.

Other recent work includes message switching computers for the public safety sector. These switches route data traffic among external systems and devices using LU6.2, 3270 SDLC, bisync, TCP/IP, X.25, 8A1 isochronous and various async protocols. Typical external systems include large mainframes, mini/micro computer systems, radio linked mobile data terminals, TTY terminals and LORAN or GPS based vehicle locating equipment. I have also developed work station software in the Microsoft Windows 3.1 environment for an automatic vehicle location system (AVL) using digital maps, plotters, and the Winsock TCP/IP interface.

Professional Positions

Principal Member of the Technical Staff, Paradigm4, Inc. Engineering of NT and UNIX based interfaces to mobile data RF networks and state law enforcement systems. I also designed and implemented a portable run time engine that executes on several types of pagers and hand held devices. This engine communicates with a device specific hardware abstraction layer that provides display and radio services. In this position, I was the group leader for a team of 4 engineers. Primary language: C/C++. 1999–present.

Senior Engineer, Coded Communications Corp. Engineering of UNIX based radio network controllers for the Coded IQ series of radio packet modems and base stations. This work was performed on SUN workstations. Primary language: C. 1995–1999.

Senior Engineer, OCS Technologies, Inc. (formerly Diversified Computer Products, Inc.). Engineering of UNIX based message switching computer systems, including development of UNIX device drivers, line discipline modules and state machine implementations of several communication protocols. This work was performed on various UNIX platforms, including Data General AViiON, NCR

Towers, HP9000, DEC VAX, and Intel based UNIX PC's. Primary language: C. 1990–1995.

Consultant, Tampa Software Engineering, Inc. Database application and utilities development for clients. Primary languages: C, C++, DBASE, 80X86 Assembly Language. 1989–1990.

Assistant Professor, University of South Florida. Taught undergraduate/graduate classes in Mathematics and Computer Science. Computer-related courses included Pascal programming, FORTRAN programming, BASIC programming, Analysis of Algorithms, Numerical Analysis, and Numerical Linear Algebra. 1982–1989.

Teaching Assistant, University of Illinois. Taught undergraduate courses in Mathematics. 1977–1982.

Computer Systems Analyst, Honeywell Information Systems, Inc. Lead analyst (supervising four others). Provided on-site customer support for the Honeywell H6000 system and the GCOS operating system. In addition, as the regional Technical Specialist, I was responsible for all system software problems that the local site analysts could not resolve. Primary language: H6000 Assembly Language. 1971–1977.

Software Systems Engineer, United States Air Force. Lead engineer in the development of assemblers and compilers (JOVIAL) for a large system development effort involving the Space Track system. As head of the Language Processing section, I supervised three other engineers. Primary languages: Assembly, JOVIAL. 1967–1971

Area of Specialization

Communications software, systems programming, tools and utilities, implementation of ''little languages'' for software tools.

Programming Languages

C, C++, awk, Perl, 80X86 Assembly Language, various DBASE dialects, Pascal, Modula-2, FORTRAN, BASIC, JOVIAL.

Education

Ph.D. (Mathematics), University of Illinois at Urbana, 1982.

M.S. (Applied Mathematics), University of Colorado at Colorado Springs, 1977.

B.S. (Mathematics), Rensselaer Polytechnic Institute, 1967.

Professional Organizations

Association for Computing Machinery

IEEE Computer Society

SIGCOMM—The ACM Special Interest Group on Data Communication

USENIX

Internet Society

Publications

1. "Bishop's Condition Beta," *Glasgow Math J.*, 26, pp. 35–46 (1985).
2. "Strongly Analytic Subspaces and Decomposable Operators," *Pacific J. Math*, 115, pp. 193–202 (1985).
3. "Global Gotos in Turbo Pascal," *Turbo Tech Report*, 2, No. 1, pp. 7–10 (1987).
4. "Look It Up Faster with Hashing," *BYTE*, 12, No. 1, pp. 128–144 ff (1987).
5. (with E.B. Saff), "The Error for Quadrature Methods: A Complex Variables Approach," *American Mathematical Monthly*, 94, No. 2, pp. 175–180 (1987).
6. "Exponentiation in C and Pascal," *Computer Language*, 3, No. 9, pp. 81–87 ff (1988).
7. "Using and Changing MS-DOS File Attributes," *Sextant*, 37, pp. 9–13 (1988).
8. *Effective TCP/IP Programming*, Addison-Wesley, Reading, Mass. (2000).