

**Kenneth Lerman**  
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## **Education:**

BA Mathematics, Cornell University  
Fourth degree black belt (Yondan) in JuJitsu  
Certified Emergency Medical Technician

## **Professional Skills:**

- o **Technology:** Requirements Definition, Real-Time Systems Design, Embedded Systems, Object Oriented Design and Implementation, Language Design and Implementation, SAAS, Network Management, Portfolio Management, X-11 GUI Technology, Client-Server, Operating Systems Design, Integrated Circuit Design, Signal Processing, Flight Test Data Analysis, System Simulation, Process Control, Computer Graphics, Network Architecture, Logic Design, Video Capture and Imaging.
- o **Computers:** Sun Sparc, Sun-3; DEC Vax, PDP-11; DG Aviiion, Nova; Intel 4004, 8008, 8080, 8088, 8086, 80286, 80386, 80486; CDC 6400, 3300, 1700; IBM RS6000, 360, 7094, 1620, 650; Zilog Z-80; Motorola 860, 68010, 68020, 68030, 6800; HP 900 series.
- o **Programming Languages:** C++, C, Python, Objective-C, Fortran, Smalltalk-80, Pascal, COBOL, Lisp, Simscript, GPSS, Assembly Language on most of the above machines.
- o **Operating Systems:** Linux, VxWorks, Unix (Solaris, System V Unix, Unix BSD 4.2 and derivatives, AIX, HPUX), DOS, Windows, OS/2, DEC Vax/VMS, RSX-11/M; MSDOS; CPM; IBM IBSYS; CDC TCOS, 6400 Scope, 3200 Scope; Data General RDOS; PBA-RTOS.
- o **Communications Protocols:** TCP/IP, SONET, SS7, HDLC, SNA, Bisync.

## **Professional Experience:**

- o *{7-11 to 9-11}* (**Envipco**) Senior Software Engineer (Contract). Software developer for embedded system of reverse vending machine (RVM). This system consists of multiple microprocessor (atMega1280) boards communicating to a Linux host using RS-485 communication. Evaluated existing code base of Linux and firmware systems. Suggested alternative future development paths. Wrote prototype code for a machine to recycle cans. [**Skills: C++, pthreads, design, Linux, firmware, coding, reviewing**]
- o *{8-10 to 7-11}* (**ASML**) Software Contractor at ASML. Software developer for embedded system components of wafer lithography machine. Negotiated coding standards with members of C++ Change Control Board. Modified C++ code to adhere to best practices. [**Skills: C++, Python, Unix, coding, reviewing, mentoring, setting standards, collaborating**]
- o *{1-09 to 4-09}* (**Datamotion Inc.**) Vice President of Engineering of this provider of Software as a Service (SaaS) for secure electronic mail. Headed an engineering organization of six engineers that was slated to grow to over twenty by Q4 2011. Defined projects, scheduled manpower, and evaluated their work. Invented new technology that was the subject of a US patent application. As a member of the Executive Staff, interfaced with legal counsel, vendors, contractors, marketing, and sales. [**Skills: leading, inventing, innovating, managing, planning, collaborating, negotiation**]

- *{1-04 to 1-09}* (**Mark Kenny Products Company, LLC**) As a Founder and Director of Engineering of this manufacturer of Anesthesia Machines for the Veterinary Market, invented the product, wrote the patent applications, implemented the product, and brought it through manufacturing. Interacted with vendors, distributors, and customers. The product was implemented in the C language, using an AVR microprocessor. Wrote the boot loader, the host loader, and the calibration routines. Wrote the user manual and all sales literature. Built a CNC milling machine using open source EMC software. Modified the EMC interpreter to support control and subroutine functionality. **[Skills: C language, embedded systems, interpreters, language design, planning, sales, documentation, marketing]**
- *{4-01 to 1-04}* (**Systems Essentials Limited**) As Principal of this consulting company worked on a variety of assignments including requirements definition and analysis, and real-time embedded systems. **[Skills: Requirements definition, C, TCP/IP, embedded systems]**
- *{10-98 to 4-01}* (**FNR Systems, Sirocco Systems, Sycamore Networks**) First as a consultant to startup FNR systems, and later as the first employee of this vendor of Optical Networking Systems, helped build a high (99.999%) availability optical edge networking platform. Developed the task architecture, the memory allocator, the crash dump facility, and the inter/intra processor network interface. Invented the control processor redundancy architecture (patent 6,839,866: System and method for the use of reset logic in high availability systems). **[Skills: C, TCP/IP, Motorola 860, architecture, VxWorks, SONET, embedded systems]**
- *{5-98 to 9-98}* (**ADC-Newnet**) As a consultant to a vendor of SS7 Communications Systems, helped build a gateway from the internet to the public switched telephone system. Was responsible for the TCP/IP interface, and the development of a language and parser for the implementation of call control. **[Skills: C, TCP/IP, Language Design, Lex, Parser Design and Implementation, Solaris]**
- *{8-97 to 5-98}* (**Bedford Associates**) As a consultant to a vendor of Telecommunications Fraud Detection Systems, analyzed defect reports, found bugs, and repaired them. Reorganized the source code control and configuration management system. **[Skills: C++, Solaris, X.25, Code Manager]**
- *{4-97 to 8-97}* (**MCI**) As a consultant, specified, designed, and implemented a language for driving tests of an object data store. **[Skills: Lex, Parser Design, Solaris, Multi-threading, TCP/IP, Analysis]**
- *{11-96 to 3-97}* (**EMC**) As a consultant to this vendor of Mass Storage and System Backup Solutions, analyzed defect reports, found bugs, and repaired them. Found and repaired memory leaks in a major multi-threaded application. The code was written in C++ using the Solaris operating system on SPARC computers. **[Skills: C++, Solaris, Multi-threading, TCP/IP, Analysis]**
- *{10-96 to 11-96}* (**ISO**) As a consultant to this provider of services to the insurance industry, built and installed terminal emulation software on a Unix system. Installed vendor software, and interacted with supplier regarding bugs in purchased software. Performed system administration functions. **[Skills: C, Solaris, SNA, terminal emulation]**
- *{2-96 to 9-96}* (**Ascom Nexion**) As a consultant to this vendor of ATM switching systems, helped analyze requirements. Also reviewed and evaluated internally developed Object Libraries. This work used the C++ language and Unix operating system on Sun computers. **[Skills: Requirements Analysis, C++, Unix, Sun]**
- *{3-95 to 12-95}* (**NYNEX**) As a consultant to this regional telephone company implemented the plotting subsystem of a graphics imaging subsystem. This work used the C language and Unix operating system on Sun computers. Also implemented inter-processor communication using TCP/IP. **[Skills: C, Unix, TCP/IP, Graphics, Sun]**

- o *{9-93 to 3-95}* **(SNET)** As a consultant member of a team of four working for this regional telephone company was responsible for the architecture of the real-time component of a credit card validation system. Specified, designed, and implemented major system components including inter-processor communication, system monitor and control, error logging, and database access methods. **[Skills: C, Unix, TCP/IP, Real-Time, Architecture, Sun, Stratus]**
- o *{6-93 to 9-93}* **(Telco Systems)** As a consultant to this communications hardware vendor, designed and implemented a parser for the TL1 language, a superset of the industry standard MML (Man Machine Language). This work was done using the C language and the Unix operating system. **[Skills: C, Unix, Parser Design]**
- o **(IBM)** As a consultant member of a select task force working for IBM, was responsible for the identification of issues related to determining IBM's corporate strategy with respect to object oriented programming. IBM's System Object Model (SOM) was a direct result of this effort. **[Skills: Architecture, OO Design, Writing]**
- o **(Battery March)** As a consultant to a nine billion dollar pension portfolio manager, was responsible for the design and implementation of an end user visual programming query language. **[Skills: GUI, Objective-C, Unix, Language Design, Parser Design, HP, OO Design and Programming]**
- o **(NYNEX)** As a consultant to a major vendor of telecommunications systems was responsible for the design of the user interface of a major network management software product. **[Skills: GUI, Objective-C, Unix, Sun]**
- o **(Stepstone)** As a consultant to a vendor of object-oriented user interface software was responsible for enhancing its clipping code to achieve a factor of twelve in performance. **[Skills: Objective-C, C, Unix, GUI, Performance Enhancement]**
- o **(Stepstone)** Ported Stepstone's Objective-C compiler and runtime to a variety of platforms. **[Skills: C, Objective-C, Unix, IBM, HP, Sun]**
- o **(Stepstone)** Implemented classes to perform WYSIWYG editing of text in Objective-C under ICpak201. **[Skills: C, Objective-C, Unix, GUI]**
- o **(Visual Horizons)** As a principal and Director of Engineering of Visual Horizons Incorporated (VHI), was responsible for the design and implementation of a television quality video capture and display board for the PC marketplace. **[Skills: Hardware Design, C, DOS]**
- o **(Stepstone)** Wrote the equivalent of thirty Smalltalk graphics and View Classes in Objective-C. **[Skills: Smalltalk, C, Objective-C, Unix, Sun]**
- o **(Ericson)** As one of six consultants, participated in a major contract in Sweden, which directed the creation of a modern development environment structured around Sun workstations and the Unix operating system. **[Skills: Architecture, Sun, Writing]**
- o *{5-82 to 1-85}* **(Bunker-Ramo)** As the Chief Architect on the staff of the Director of Engineering for this major provider of services to the brokerage community, led the design of a corporate next generation network consisting of a collection of data centers connected by private circuits using a proprietary protocol with layering according to the OSI Reference Model. Each such data center is a fault tolerant, N+1 redundant, distributed system connected by a local area network. The design supports over 5000 Office Data Centers with over 50000 terminals. Responsible for the design of the hardware and software. **[Skills: Architecture, Real-Time, Communications Protocol Design, Embedded Systems, Hardware, C, Writing]**

- o {8-76 to 4-82} (**Schlumberger**) As part of a team responsible for the introduction of modern computer graphics to a major research laboratory, was an observer to ANSI X3H3 which is responsible for the development of American National Standards for computer graphics systems. [**Skills: Graphics, Writing**]
- o (**Schlumberger**) Modeled the flow of two phase liquids through porous media on the VAX computer leading to the development of a new mathematical model for the understanding of such flow. [**Skills: C, Vax, Simulation, Mathematics**]
- o (**Schlumberger**) Designed and implemented a graphics editor for the layout of integrated circuits. Implemented a custom CMOS LSI chip using that editor together with a variety of other design and simulation tools. [**Skills: C, Graphics, Hardware, Chip Design**]
- o (**Schlumberger**) Implemented Ethernet communications protocols using Xerox Dolphin computers connected to a VAX computer. [**Skills: Smalltalk, C, Communications, TFTP**]
- o (**Intergrated[sic] Industrial Systems**) Designed and implemented a system for the real-time control and monitoring of rolling mills. Designed and implemented the operating system for this system of three Zilog Z-80 processors. [**Skills: Z-80, Assembly Language, Real-Time, Embedded Systems, OS Design**]
- o (**Schlumberger**) As a member of a team, collected the requirements for and produced the specification for a real-time telemetry system for the reduction of data from oil wells. [**Skills: Architecture, Design, Requirements, Writing**]
- o {9-75 to 7-76} (**Cognitronics**) Lead the technical effort in the design of a general purpose telecommunications front end using multiple Motorola 6800 microprocessors. Had primary responsibility for the hardware and software design. [**Skills: Hardware Design, Software Design, 6800 Assembly Language**]
- o Implemented a cross linking loader for the Motorola 6800 on a PDP-8 computer (**Cognitronics**). [**Skills: PDP-8 Assembly**]
- o Designed and implemented a high performance raster graphics board with a multibus interface. The board contains hardware BitBlit logic as well as a Motorola 68000 processor. [**Skills: Hardware Design, Architecture, 68000 Assembly Language**]
- o {1-74 to 11-74} (**Bristol Division of ACCO**) Responsible for the architecture, design and implementation of a real-time process control system using the Intel 8080 processor. This system is user configurable and is particularly well suited to applications requiring combinations of sequential logic and analog measurement and control. [**Skills: Architecture, Object-Oriented Programming, 8080 Assembly Language, Real-Time, Process Control, Embedded Systems**]
- o {3-71 to 12-74} (**Pitney-Bowes Alpex**) As Section Manager of Systems Analysis and Design for a manufacturer of point of sales systems, was responsible for the design and implementation of systems using the Data General Nova computer. Together with his staff, implemented languages, operating systems, and communications software. [**Skills: OS Design, Nova Assembly Language, Real-Time, Embedded Systems, Management**]

*(Revised September 12, 2011)*