Bruce A. Martin

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SUMMARY: **Over three decades of solid experience in analysis, software architecture and design, real-time process control, scientific & systems programming, as well as product development, project management, quality assurance, training, and technical support.**

CURRENT EMPLOYMENT:

- **Tripodics Computing Services:** *Proprietor.*
System analysis, software development, eCommerce, consulting, and training programs. Specialties include website design (XHTML), client-side (Javascript) & server-side programming (Perl CGI), web-enablement/portability of legacy software applications, control systems, process control.
- **Emerging Technologies Group:** *Senior Research Collaborator*
Author of numerous technical papers and industry analysis reports, including in-depth comparisons of Unix operating systems, fault-tolerant and high-availability platforms, processor migration strategies, SQL database vendors, vendor policies for OS modification.
- **Suffolk County Community College:** *Adjunct Professor (Mathematics & Computer Science)*
Over 30 years of college teaching experience: programming languages, software and website development, computer architecture, operating systems, algorithm design, theory, other topics.
(Adjunct Professorships also at Polytechnic University, Briarcliffe College, The Gibbs School.)

PRIOR EXPERIENCE:

Brookhaven National Laboratory, Relativistic Heavy Ion Collider (1991-99)
Advanced Computer Analyst. - Software architecture, design, implementation of distributed accelerator control system (VxWorks, **Unix** RPC, **C++**). Also implemented embedded firmware (**C**, i960 assembler) for real-time control of magnet power supplies, instrumentation, other equipment. Responsible for systems integration of over 100 networked Front-End Computers (VME-bus MC68040 and 603e) and web-based testing (**HTML**, **Java**, and CGI **Perlscripts**). Also responsible for Software Quality Assurance programs; wrote and implemented departmental SQA standards.
Grumman Aerospace, Integrated Logistic Support Department: (1986-91)
Principal Engineer / Software Deputy to Director of Computer Engineering -
Responsible for implementing new technology & standards for ATE (Automated Test Equipment), assessing impacts on Grumman business. Also led advanced software group developing CASE tools: **ATLAS** generators, **CASS** translators, neural nets for test coverage, expert systems for Built-In-Test. (**C/C++**, **Pascal**, **Lisp**). Performed comprehensive study of **Ada** insertion into **ATE**. Devised and implemented requirements-based software cost estimation for ILS Dept. programming environment. Introduced diagnostic flowcharting software to meet U.S.Navy TPS requirements ($2M cost-savings).
Also completed special assignments for Corporate Technology office, including:
· Technical Advisory Group (Software Audits) for Grumman Melbourne Division (JSTARS).
· Corporate Steering Groups for Software Engineering; Software QA; Configuration Management.

· Represented Grumman at the Software Productivity Consortium (Herndon, VA).
· Co-author, Conceptual Design of Control System for X-Ray Lithography Synchrotron (DARPA).
· Authored the Space Division's System Engineering Standard (Requirements-Driven Design Methodology).

Robotic Vision Systems Inc.: (1985-86) *Software Manager*
Successfully integrated computer usage and networks across divisions of the company, selected and managed new computer and network installations (microVAX, Sun, ethernet, PACX, CAD/CAM), and conducted C & Unix training programs for over 50 software, electrical, mechanical, and robotic engineers under my technical direction. Devised and instituted corporate standards and methodologies for software development, re-use, design-capture, QA, Configuration Management, CASE tools.

Megadata Corporation: (1983-85) *Product Manager*
Developed and brought to market an Inventory Control System, a 68020-based Unix system, a Z80-based CP/M product, and an 8088-based Personal Computer "clone" (including ROM BIOS). Also developed Unix drivers, communications codes, **`Fortran`** compiler enhancements, and a 6809 cross-assembler. Supported products for airlines, securities trading, and other applications. Negotiated OEM contracts, wrote major proposals, and provided technical support at trade shows and sales visits.

American Science, Energy & Environment (1981-83) *Vice President, Software Development.*
Managed all software efforts in diverse areas, including porous media simulations, meteorological analysis, environmental and medical effects of pollutants, battlefield simulations, pharmaceutical database for drug interaction, legal data retrieval, and video arcade graphics.

Independent Consultant: (1980-81)
Engaged by Microsoft to solve critical **`Fortran`** and **`Pascal`** compiler problems, for what later became the IBM personal computer. Other clients included U. S. Army White Sands Missle Range (probabilistic modeling of atmospheric turbulence), Los Alamos Scientific Laboratory, NY State Organized Crime Task Force, Fabricated Plastics (NJ), Cyberchron Systems (Los Angeles, CA), Microwave Power Devices, MA/COMM, American Science.

Brookhaven National Laboratory: (1966-80) *Scientific Programmer/Analyst*
During 15 years of progressively responsible staff positions in the Applied Mathematics Dept., completed projects for every scientific department plus assignments at CERN, Argonne, Los Alamos, and other national labs. Work included scientific programming, modeling (molecular structure, nuclear reactors, acid rain), language compilers, operating system internals and drivers, real-time process control, data collection and reduction. Established and supervised Help Desk and User Support Services.

Polytechnic Institute of Brooklyn: *Research Associate in Physics X-Ray Diffraction Lab*. (1964-66)
Performed crystallographic structure determinations; implemented several computational programs in Fortran and assembler. Responsible for converting all crystallographic software from Fortran II to IV.

EDUCATION:

B.S. degree, 1964	Mathematics	Polytechnic Institute of Brooklyn
Ph.D. candidate, 50 postgrad credits	Physics / X-Ray Crystallography	Polytechnic Institute of Brooklyn *(now Polytechnic University)*
35 postgrad credits	Computer Science	State U. of NY at Stony Brook, and Poly

OTHER:
Secret Clearance, 1986. "Extended Background Investigation" (EBI) completed 1988.
Principal Member of ANSI Fortran Standards Committee X3J3 and ISO JTC1/SC22/WG5.

Chair, Fortran Interpretations Subcommittee. Other standards work on POSIX, Ada, and C language.
ACM (Assn. for Computing Machinery): LI Chapter chair, SIGADA local chair, FORTEC national vice chair.

See Skills Summary at `http://www.abcdunlimited.com/bam/resume/skills.htm`
See publications list at `http://abcdunlimited.com/bam/resume/pubs.htm`
Languages & Operating Systems: Over ten years experience in *each* of the following:

- C/C++, Java, Fortran, Basic, VB, Pascal, Assembly languages DHTML, Javascript, Perl.
- UNIX drivers & internals, Real-time process control, systems programming
- on a wide variety of operating systems and platforms.

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