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**Craig P. Forbes**

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**Technical Skills**

- Expert C, perl, PHP software developer.
- Experienced in C++ and Java.
- Knowledge of and development experience with C#, Python and other languages.
- Detailed knowledge of the C++ and Java language specifications, stemming from developing and maintaining McCabe & Associates' C++ and Java parsers.
- Ability to quickly and accurately understand and work on unfamiliar code.
- Knowledgeable in configuration/release management. Extensive experience using CVS.
- SQL database experience including database design and application development. Experience with Oracle and MySQL.
- Experienced network programmer, with TCP/IP and UDP client/server experience.
- Knowledge of internet protocols, including SNMP, DNS, SMTP, HTTP.
- Skilled in the configuration and maintenance of common internet software packages including Apache, ISC Bind, MRTG, and Sendmail.
- Familiar with standards documents including internet RFCs, W3C specifications, and ISO/ANSI standards.
- Designed and implemented lexical scanners and parsers using lex(flex) and yacc(bison).
- Experience working in a heterogeneous network environment, including Linux, FreeBSD, Sun, HP, Tru64, AIX, SGI, and Windows.

**Employment History****Senior Software Engineer** — *Celera Genomics/Applied Biosystems (Applera Corp.)* (Rockville, MD)

*November 2001–Present*

- Senior Developer on the Applera SNP Project data processing pipeline. The project detected Single Nucleotide Polymorphisms (SNPs) in the human genome through automated detection.
- Lead engineer developing the automated detection software. Worked with biologists and other experts to develop algorithms and processes for automatic SNP detection.
- Developed software to manage the automated detection pipeline.
- Worked with domain experts to develop tools for extracting and visualizing the data generated by the Applera SNP project.
- Lead Engineer for platform migration project. Managed the migration and porting of the team's pipelines from Compaq Tru64 to IBM AIX. Also managed migration of over 1.5 terabytes of data.
- Designed and produced automated pipelines for validating data used in developing Applied Biosystems' VariantSeqR Resequencing Assays.
- Technical Lead developing an automation tool for biologists analyzing Pharmacokinetic data.
- Technical Lead for the migration from AIX to Linux

**Software Architect** — *Looney Labs, Inc.* (College Park, MD)

*December 2003–Present*

- Maintained the Looney Labs e-commerce and content management system, which is used to manage the day to day operations of their sales, marketing and order fulfillment.
- Worked with users of the system to develop requirements for new software projects.
- Designed and implemented new features and functionality based on requirements.

**Senior Network Programmer** — *Cogent Communications, Inc.* (Washington, DC)

*July 2000–October 2001*

Technical lead for the Network Programming group.

- Designed and implemented a C based network monitoring system to collect data from routers on Cogent's nationwide network. This project included a collection engine using SNMP and a web based display.
- Designed and deployed a system to inventory networking equipment (i.e. routers) in Cogent's network.
- Wrote an rwhois server to provide IP address allocation information for ARIN.
- Built, installed and maintained tools and servers to support the Network Engineering team in monitoring and configuring the operational network.
- Deployed departmental intranet web server, which was used as the primary interface for many tools developed by

myself and the other network programmers.

**Senior Network Programmer** — *Intermedia Communications, Inc./Digex, Inc.* (Laurel, MD)  
*January 1999–July 2000*

- Technical lead in the development of network monitoring and automation tools.
- Wrote a tool to build a map of network devices and their interconnections.
- Designed and managed development of DNS management system.
- Performed a variety of system administration tasks.

**Software Engineer** — *McCabe & Associates, Inc.* (Columbia, MD)  
*September 1994–December 1998*

- Team Lead, Parser Development Group, June 1997-1998. Technical lead for the parser development. Supervised six person parser group which maintained and developed parsers for over 15 languages. Planned and coordinated both longterm and short term development efforts.
- Designed and implemented Java parser for use with the McCabe Visual Toolsets. This project included requirements specification, functional and technical design, implementation and coordination with the Quality Assurance group.
- Maintained lex/yacc based parsers including extensive work on a C++ parser.
- Cross platform software development on many Unix versions and Windows NT.
- Designed and implemented a bug tracking database for internal use by the development group. This system utilized a World Wide Web front end to an SQL database using dynamically generated html documents.
- Installed and configured an Internet server, including WWW and FTP servers.
- Configured and maintained an internet firewall.
- Performed various system administration tasks, including configuring DNS, NIS, and NFS.

**Graduate Teaching Assistant** — *University of Iowa, Department of Electrical and Computer Engineerin* (Iowa City, IA)  
*January 1993–May 1994*

- Taught laboratory sessions, tutored students, and graded assignments.

**Summer Contract Employee,** — *Maryland Office of Planning* (Baltimore, Md)  
*Summer 1989–1992*

- Performed various computer related tasks, including installation and maintenance of computers, peripherals, and commercial software packages.

**Editor-in-Chief** — *The Pharos, College Newspaper, West Virginia Wesleyan College* (Buckhannon, WV)  
*1989–1991*

- Proposed, designed and installed the newspaper's first desktop publishing system, including hardware and software.
- Trained staff on the use of word processing and desktop publishing software.

## Related Experience

*Baltimore Science Fiction Society (BSFS), Baltimore, MD, volunteer.*

- Designed a C++ based registration system and art show point of sale (POS) system for BSFS's annual Convention, Balticon. This was a full life cycle project, which included design, implementation, testing, deployment, and training users. The system includes a curses based user interface and integration with an SQL database(mysql).
- The Art Show point of sale system was also used at The 1998 World Science Fiction Convention (Worldcon).

## Education

**Master of Science in Electrical and Computer Engineering,** August 1994  
University of Iowa (Iowa City, IA)

- Study emphasis on Software Engineering.
- Member of the team developing Intrepid, a software system for portable parallel programming.
- Thesis: A New Multi-Phase Compiler for Portable Parallel Message Driven Programming (part of the Intrepid project).

**Bachelor of Science in Electrical Engineering and Computer Science,** May 1992  
West Virginia Wesleyan College (Buckhannon, WV)

- Senior Research Project: Designing and constructing the hardware and software for a parallel processing system based on 6502 microprocessors.
- Editor-in-Chief, The Pharos (college newspaper), 2 years.
- President, Engineering Physics Club, senior year.