

Gary Wayne Dawson – Software Engineer

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With an MS in Electrical Engineering and hence a thorough understanding of computers from the ground up, I have worked at many levels of software development over my three decades of professional computer experience. Experience in project management while maintaining strong skills as an individual contributor.

HIGHLIGHTS

- Splunk
- Linux/Unix
- Bash and PowerShell scripting
- C++, C#, Java, PHP, Perl, Python
- Software integration of multiple systems across multiple technologies
- BigFix
- GitHub Enterprise
- Jenkins
- REST API Development and use
- XML, JSON, YAML
- Software RAID implementation on Linux servers
- I have taught several object oriented languages, including C++, C# and Java
- MySQL and other RDBMSes, including stored procedures
- MongoDB
- Blockchain programming
- Master of Science in Electrical Engineering with minor in Artificial Intelligence

Additional Technologies:

- other SQL: including PostgreSQL, MS SQL Server, and Oracle
- also some experience in developing C# .NET applications
- operate multiple personal Linux servers and use unix based workstation

EMPLOYMENT HISTORY

Midlands Technical College (Jan 2026 – present) Columbia, SC

ECE Adjunct Professor

Teach the following evening courses:

ECE-211 Introduction to Computer Engineering I which covers digital systems and basic mathematical techniques used to design combinatorial and sequential logic systems

ECE-212 Introduction to Computer Engineering II which applies the overall concepts of microprocessor architecture and fundamental concepts of assembly language programming using MIPS

ECPI University (Aug 2015 – Oct 2024) Columbia, SC

EET and CIS Adjunct

Taught evening courses in Computer Information Systems and Electronics Engineering Technology, including Introductory and Intermediate Database, Web Development (HTML/CSS), Web Client Scripting (Javascript), Programming (C, C++, C#, Java, PHP), Powershell, Cloud Computing Concepts, Linux Administration, Intro to Operating Systems (including Linux/Unix), Networking, Digital Systems I and II, Electric Circuits I and II, Semiconductor Devices, Industrial Applications

INDEPENDENT CONTRACTOR (Oct 2020 – Mar 2021) Columbia, SC

- Symphony PHP website using PostgreSQL (running under Linux)
- Node website project using React, Express, and MySQL

Blue Cross Blue Shield of South Carolina (May 2019 – June 2020) Columbia, SC Sr. Applications Development Systems Analyst

Performed the following in the context of a Splunk installation which involved a multi-machine Indexer cluster, thousands of Universal Forwarders (in a proprietary cloud environment), and multiple Heavy Forwarders:

- Designed/implemented data ingest apps, including scripts in Bash, Perl, Python under Linux and PowerShell under Windows
- developed Python script (running under RHEL) that passed Splunk data to a REST API for creating tickets in an internal ticketing system
- developed Alerts using SPL (Search Processing Language)
- developed SPL Reports
- implemented connections with relational databases using DB Connect
- integrated AppDynamics to ingest data into Splunk via HEC (HTTP Event Collector)
- minor experience with SOAP APIs (running under Linux)

Performed this work in an environment that used Github Enterprise for source control, BigFix for endpoint management, Jenkins for CI/CD automation and an Agile development process.

Horizen (Aug 2017 – Apr 2018) Columbia, SC

Senior Developer (Core Team)

Involved with multiple aspects of the Horizen system, including Secure Node deployment testing (under Linux), code reviews, new technology research, and hardware wallet integration (dev computer running Linux). This was a hardware device with embedded software to do cryptocurrency transactions. Created transaction by hand which I successfully submitted to the Zencash blockchain.

INDEPENDENT CONTRACTOR (Mar 2004 – Dec 2021) Columbia, SC

Web Application Developer

Largest project involved developing and running the software platform and servers for c-gold.com and c-coin.com, two services of Commerce Gold. These are both LAMP projects (Linux, Apache, MySQL, PHP) involving fully custom software design and coding, REST API development, security/antihacker measures, and selection, setup and maintenance/administration of two dedicated servers. Other projects involved developing a C# .NET application for significantly less than the client had been paying a large custom software house.

BONSAI SOFTWARE (Jan 2003 - Dec 2003) Limassol (Lemesos), Cyprus

Database and Web Application Developer

For an offshore services provider, designed a complex PostgreSQL database running under Apache/Linux. Utilized the following features of PostgreSQL: PL/pgSQL functions, triggers, views, inheritance. Also developed an online sales site that involved PHP scripting to retrieve JavaScript code and dynamically modify it before presenting it to the user's browser.

INDEPENDENT CONTRACTOR (Jan 2002 - Dec 2002) East Greenville, PA

Web/Database Programmer

Developed various websites. Performed my own marketing and client interfacing, as well as PHP and HTML/JavaScript development. Hired subcontractor for graphics work.

FOLDERSAFE, INC. (Jun 2001 - Dec 2001) Harleysville, PA

Head of Software Development

Worked as a contractor, developing encryption software under Windows using Visual C++. Software required a database to track status of encrypted files. The software runs under Windows 95, 98, 2000 and ME, and is integrated with the Windows shell. Supervised staff in development of project design documents and GUI code.

BONSAI SOFTWARE (Feb 2001 - May 2001) Palm Bay, FL

Web/Database Programmer

Worked as a sole proprietor, developing software for a client in Dominica. Wrote all functional code for v1.0 of a gold based online payment system called 3PPay. Used HTML, Javascript, PHP, and PostgreSQL, running Apache webserver under Linux. Performed all necessary work including software design and coding, and setting up of network for development/testing. Received bonus from client for delivering software to meet a short deadline.

GOLD & SILVER RESERVE (Apr 2000 - Jan 2001) Melbourne, FL

Web/Database Programmer

Worked as a subcontractor. Developed software under WindowsNT for IIS and SQL Server, including SQL stored procedures, and ATL/COM. Software was for G&SR's OmniPay service, which exchanges between e-gold and USD, as well as other currencies.

THE HIPAGE COMPANY (Jun 1997 - Mar 2000) Norfolk, VA

Systems Programmer

Developed software under UniVerse DBMS (running under AIX on RS6000), including database manipulation and report programs, Electronic Data Interchange and other communication software. Also served as Webmaster, making previously written HTML and graphics more efficient and faster to download.

TIDEWATER COMMUNITY COLLEGE (Sep 1997 - Mar 2000) Norfolk, VA

Assistant Professor

Developed and taught basic to advanced courses, including object oriented programming (C++), introductory and intermediate computer programming (C/C++), web page development (HTML and Javascript), and Using Windows and Microsoft Office.

PRIMERICA FINANCIAL SERVICES (Feb 1995 - Aug 1997) Virginia Beach, VA District Leader

Worked as sales representative and manager to develop people and leadership skills, focusing on understanding and meeting clients' needs, and recognizing and developing skills in others. Sold life insurance, property and casualty insurance, mutual funds and debt consolidation loans.

NAVAL UNDERSEA WARFARE CENTER (Feb 1990 - Jan 1995) Norfolk, VA Lead Electronic Engineer

Lead for Digital Audio Special Sounds Subsystem. Developed Software. Worked closely with two contractors (a computer programmer and computer hardware assembler). Also served as software maintenance expert for Weapon Launch System Operator Trainer (WLSOT). Examined Ada code, learned system, made software changes when needed by training sites.

- Made and Implemented all decisions regarding selection of hardware, approval of documentation, and design of software for DASSS
- Controlled design and wrote half the software code, including all Assembly Language, consisting of approximately 10,000 lines of Ada. System used commercial off-the-shelf (COTS) hardware
- Developed a terminal emulation program which communicated via NTDS interface to allow

DASSS computer to be used while the trainer was in maintenance mode. Otherwise, DASSS would not have been utilized in this mode

- Designed and Developed one DASSS Engineering Development Model and 12 delivered units for shore based training facilities. At an average cost of \$23,500 per unit, replaced a \$450,000 system with a plug compatible PC based system that stores the sound data on computer hard disk instead of a physical tape system. Saved taxpayers, government and the U.S. Navy over \$5 million by lowering system, maintenance and power consumption costs

UTILITY TRANSLATION SERVICES, INC. (May 1987 - Aug 1988) Raleigh, NC Associate Software Engineer

Designed and coded programs for the power industry, including mathematical graphing routine, interrupt driven communication port driver, software to communicate with eight different recorder devices and an unsupervised automatic file transfer system.

- Translated routines of UTS' primary software product, which was originally written in Basic, to Fortran and Assembly to meet needs of next generation of the software product. Accomplished task in a timely fashion which resulted in added efficiency of system, as well as a personal pay raise of 50 percent from \$10 to \$15 per hour.
- Wrote software to communicate in various protocols with different recorder devices that gather information. This allowed flexibility for Power companies and different software to communicate with all major vendors' recorders to bring the data onto one computer platform.
- Created and Implemented a system that exchanged data at night when the computers were not normally used to ensure that customer, Duke Power, acquired accurate inventory information on a daily basis for their three labs.

MANPOWER/WALTER KIDDE (Summer 1986) Raleigh, NC

Electronics Inspector

Conducted 100% test and inspection of Gemini Fire Alarm & Suppression Control Systems. Doubled quantity of systems tested to twenty per day.

NORTHERN TELECOM (Summer 1985) Research Triangle Park, NC Student Engineer

Responsible for the installation and modification of DMS-100 telephone switching equipment in Reliability Test Module. Analyzed test results and recommended actions to improve equipment. Wrote memos recommending that an open relay be replaced with a hermetically sealed relay to reduce unsatisfactory failure rate.

NORTH CAROLINA STATE UNIVERSITY (Oct 1983 - Apr 1987) Raleigh, NC Computer Operator

Responsible for ensuring continued operation of SageIV Microcomputers and Data General MV/8000 for students' use in completing lab assignments.

EDUCATION

M.S. Electrical Engineering, 1990

North Carolina State University - Raleigh, NC

Minor in Artificial Intelligence

Member of Eta Kappa Nu (EE honor society)

B.S. Electrical Engineering, 1986

North Carolina State University - Raleigh, NC