Christopher McGrath

Software Engineer/ Information Technology Expert

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Accomplished professional experienced in information tech, software engineering, and computer science fields. Dedicated to offering transformative and revitalizing support for ever-changing requirements. Offers strengths in technology adaptations, developments, and optimizations.

Skills

- **Languages**: JAVA, C, Ruby, Python, C++, PERL, HTML 5, CSS, JavaScript, XML, MATLAB, SQL, PHP, Visual Studio, PLC, Web Services, Node.JS, and relating protocols.
- **IT Engineering**: Build custom hardware servers with unique knowledge to shop for powerful uncommon parts and install, configure, and maintain software servers, such as web, database, email, IoT, network, firewall, virtualized servers and various IT infrastructures from scratch.
- **Operating Systems**: All Windows, Mac OS, UNIX, all Linux, and others. Ability to complie custom Linux kernels, build simulated mainframe systems, and other uncommon operating systems.

Work History

2017-07-Current

Independent Contractor
AAWISDOM Inc, Thomasville, NC
- Provide complete services in the IT engineering, software engineering, IT support, development, programming, and complex science and engineering tasks
- Also offer academic services in similar fields, and course works
- Other Activities- Building and testing computers, servers, networks and IT devices, web development, software testing, networking, database applications, and IT projects
- Keywords: programming, analysis, software development, web development, server and database management, IT security, MySQL, PHPMyAdmin, MSSQL, data structure programming/applications like link list, JDBC, web service, object oriented programming, and client-server applications managements
- Worked on various clients' requested projects and sub-contracted positions since 2005 in Western NY area, and Central NY areas.

2017-01-2017-05

Web Developer
EM Vacation Inc, Amherst, NY
- The emvacations.com website needed to integrate data from Agent Gateway Services Inc
- Sample CGI programs web services were at http://bearcat.travimp.com/AgentGateway/qa/html
- The CGI programs returned XML codes
- The XML data consists of vacation information regarding flights, hotels, prices, car rentals, meals, and other services
- Determined the most appropriate protocols were SOAP, XML-RPC, and XFORMS to read, and display data
- Used PHP, HTML 5, and CSS in this project
- Determined a clear way to work on the project despite poorly written 300 pages APIs and no capable technical support from AgentGateway Inc.

2014-09-2016-05

Lead IT Manager/ Programmer
Certo Brothers Distribution Inc, West Seneca, NY
- In charge of a complex $5 million dollars automation system that consisted of Windows Servers, Windows PCs, Allen Bradley PLCs, QNX PCs, PLC devices, other electrical devices and mechanical devices
- Analyzed non-documented automation system infrastructure and wrote many documentations, and user manuals
- Developed and figured out methods to make changes in PLC programs

- Analyzed various MS SQL and MS Access databases to make changes to desired results in automation system behaviors
- Built a complete clone environment of the existing automation system as virtualized environment that consists of many replica of physical machines, PLC simulation programs, and virtual replica machines
- Performed programming in VB6 for code analysis and code changes
- Deployed clone simulation system to test changes.

Lead IT Manager
2012-02-2014-05

GoldQuest Refinement Services LLC, Buffalo, NY

- Reconstructed replica of GQ servers for security analysis, backup purposes, and further development works
- Did web development works using PHP, HTML 5, CSS, Saleforce CRM, and WordPress for company website and GQ Software
- Worked on many backend IT engineering/infrastructure tasks in building deploying and marketing Goldquest Software for live usage
- Gave clear directions with 50+ pages API documentations from leadsonline.com to determine what was needed and who was to hire for LeadsOnLine Integration Project for GQ Software to interact with web camera, scanners, other input devices, and leadsonline.com database
- Wrote 45-page professional GoldQuest Software User Manual documentation, and also wrote GQ Software documentations for internal IT department with deployment, troubleshoot, and directions for further development
- **Software Testing**- Lead in vigorous software testing/maintenance activities and identified problems and bugs that no one else before found, more than fourteen major bugs in the software, and addressed them with video screen shots and written documentations for the development team to fix.

Academic Services Tutor/ Mentor
2010-12-2014-05

AAWISDOM Inc, Buffalo and WNY, NY

- Mathematics, English, Science, and Computer Applications teaching and other services
- Supervised and monitored young students' activities in the facilities and various sites and taught them various academic courses in all grade levels
- Taught math, science and engineering, and computer applications to adult college students.

Data Analyst
2002-06-2003-01

SUNY Polytechnic Institute, Utica, NY

- Monitored the programs written in C codes that acted as spiders or crawlers for targeted web sites
- Worked with collected strings to extract data
- Other responsibilities included as monitoring data integrity, working with Redhat Linux systems, Apache servers, SQL database, C programming and PERL scripts as needed.

Software Engineer
2001-05-2002-08

Applied Theory Corporation, Syracuse, NY

- The AJB.org Project was a government contracted experimental project that built remote systems to automatically check each other existence and status
- In case of failure, various back-up systems would automatically replace the system's jobs that went down
- Audited large C codes that would do the job and also to modify some existing codes
- Wrote various socket programs in C to test, and interact with remote systems, various attacking and defending programs in C codes, such as denial of service attack, IP flood protection to authenticate real failure from attack or normal usage, and some client server programs to monitor and interact with remote machines
- Responsibilities included working with various RedHat Linux systems both locally and remotely via SSH, setting up and configuring apache servers and test websites, working with HTML and PERL scripts, CGI programming with PERL, and SQL databases.

Mathematics/Computer Science Tutor
1999-02-2002-05

SUNY Polytechnic Institute, Utica, NY

- Helped engineering students achieve academic success in math and computer science courses.

Education

2002-05-2004-05

Bachelor of Science: Computer Science
SUNY Polytechnic Institute- Utica, NY
GPA: 3.1, Dean's List

1999-05-2002-05

Bachelor of Science: Applied Mathematics
SUNY Polytechnic Institute- Utica, NY
GPA: 3.5, President's List & Dean's List

1997-03-1999-01

Associate of Applied Science: Arts and Science
SUNY College of Agriculture and Technology- Morrisville, NY

2002-01-2002-12

Researcher
SUNY Polytechnic Institute- Utica, NY
Wrote MATLAB codes to solve Matrix and Differential Equation systems involved in Chiral Langrangians High Energy Physics Equations. Chosen in elite research project based on good knowledge in High Energy Physics and good programming skills.

Accomplishments

- **Web Development**: emvacations.com, ajb.org, ourladyofhopewny.org, stogieboys.com, goldquestsoftware.com, secure.goldquestsoftware.com, aawisdom.com, aaw.link, and more.

- **PC & Laptop Manufacturing**: Built more than 50 PCs, ten Servers, and five laptops from scratch
  - Fixed and troubleshot at least 200 PCs, laptops, printers, and networks, and plug-in devices for computers
  - Fixed and installed professional networks, servers, printers, operating systems, and databases from scratch for clients, such as First Niagara Bank, SUNY Learning Centers, NYS Research Foundation, PCI Inc., and SmartSource Inc.

- **Intellectual Distinctions**: Helped professional scholars, US government employees, and others in Master and PhD programs to complete their academic and professional projects.

- **Academic Projects**:
  - *Functional Programming*: Wrote documentation for Functional Programming and AI, analyzing the IBAL (software package for AI by Harvard University) and OCAML
  - *Formal methods in Programming*: Wrote a survey of Multi-valued Logic and how its applications are developing in AI and how some of them can be applied to Formalism
  - *Artificial Intelligence*: Introduced a scheme (Information Fusion) that replaces TLUs in AI using multi-variable parabolic functions to implement fuzzy concepts
  - *System Theory*: Tested the Reconstruction of System; modeled Markov Chains; analyzed Information Theory
  - *Mathematic Modeling*: Experienced with using Vector Analysis Techniques, Probabilistic Models, Multi-variable Optimizations, and Newtonian Approximations
  - Applied Probability: Experimented the Theory of Convolution using MATLAB software and analytical methods
  - *SQL/Info Storage Access*: Designed a Conceptual Data Schema for a video store's database application in a team. Created the tables, imparted constraints, and monitored access to data. Developed various query manipulations. Experienced abstract database implementations using predicate calculus.

- **Honors:**
  - One of the five winners of Pathway National Science Foundation Scholarships at SUNY Polytech for 2002-2003 academic years
  - One of the five Tutor of the Month winners at SUNY Morrisville at 1999 academic years
  - Received regular and Advance Tutoring Certificates from NYS Research Foundation and completed the course requirements
  - Received the NYS Research Foundation Award at SUNY IT at 2002 for one of the ten outstanding scholars selected to participate in the NYS Academic Research Projects.