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Summary:

With over 25 years of software application development across domains like telecommunications, warehousing, labor accounting, electronic medical records processing, and bioinformatics, I bring extensive experience on Unix platforms, using diverse programming languages and runtime environments. Most of my experience has been in back-end development, with some web development projects in recent years. I'm currently interested in remote, contract, or freelance opportunities.

Education

Bachelor of Arts in Philosophy, 1982
University of Tennessee, Knoxville

Technical Training

Associate of Science Degree in Computer Science Technology, Cum Laude, 1991
Pellissippi State Technical Community College, Knoxville Tennessee

Professional History:

EMRTS, Edmond, Oklahoma
<https://emrts.us/>
Freelance Developer | Remote

Note: *Electronic Medical Records Technical Solutions (EMRTS) was a startup addressing various medical IT needs, including medical records, billing, scheduling, provider enrollment, claims processing, and more, using open-source technology. I worked with EMRTS on five separate occasions as a freelance developer, collaborating remotely with academics from North Carolina A&T University and other developers via Git and Skype.*

- **August 23, 2024 – September 2024** Initially, I was brought on to help mentor interns working on programming challenges and support research projects focused on Medicaid predictions, introducing foundational data science concepts. Over time, we expanded the project to include research on cryptocurrency, which led to the design and development of a Bitcoin indexer application. This work not only provided valuable mentoring experience but also aimed to deliver a production-ready tool to compete with existing commercial solutions. Technologies used included macOS, Windows, the EMRTS Linux network, and GitHub for version control. Development relied heavily on Python 3.x and Flask, with some components built in TypeScript. Databases used included PostgreSQL
- **July 2015 – January 2017** Developed proofs of concept tools and prototypes to handle medical transaction data (EDI_X12_837) and process large medical provider information (JSON, XML). Extended a web services application for state governments and clinics for medical provider data registration and validation.
Tools: Python 3.5, PostgreSQL, Django, JavaScript | *Platform:* Unix
- **October 2013 – March 2011** Collaborated on an application for mobile medical screenings and provider enrollment research for state governments. Developed a Health Information Exchange (HIE) application for hospitals.
Tools: Elixir/Phoenix | *Platform:* Ubuntu Linux, macOS | *Databases:* MariaDB, PostgreSQL, MongoDB
- **November 2011 – March 2012** Focused on electronic medical records, claims processing, and provider enrollment applications on GNU/Linux using Python and Django. Created tools for handling JSON data and expanded the application to support additional records processing.
Tools: Python, Django, JavaScript (jQuery, Node.js) | *Databases:* MariaDB, PostgreSQL, Redis
- **July 2009 – May 2010** Conducted code analysis for GNUmed (an open-source electronic medical record system) to evaluate its suitability for client needs. Built a RESTful web service for state medical provider validation.
Tools: Python, Django | *Platform:* GNU/Linux

Quantuvos Atlanta Ga

<https://www.quantuvos.com>

Nov 12, 2021 – Feb 28, 2022

Served as a technical consultant for Quantuvos, a start-up in coaching services, at the request of the CTO. My role involved reviewing and testing code for an MVP website used by coaches and clients to schedule workshops and sessions. I provided recommendations to enhance the site's functionality and robustness. This remote project utilized Python 3.9, Django 3.1, PostgreSQL 14.1, Docker, and Azure.

Orchid Orthopedic Solutions, Mason MI

<https://www.orchid-ortho.com>

Feb. 17th 2020-Dec. 11th 2020

Engaged in a **six-month remote contract**, extended to year-end, focused on document processing and archival. Prepared Word, Excel, and PDF documents for submission to EtQ Reliance, managing the programmatic insertion of required tags and formats for archiving and modifying spreadsheet metadata. Ensured metadata accuracy and completeness before processing. Development was conducted in **Python 3.8** and **C#**, working on both Windows 10 and macOS.

C Spire, Jackson M.S.

<https://www.cspire.com>

July 2018-Late December 2018

I was **lead developer** on this contract to create a **"RESTful auto-provisioning API", for managing customer and vendor services data**. This involved tracking, logging and reporting on customer services provided by C spire and third-party vendor services provided to C spire. The application was for use by the business office and the network system administrator. Tools used included **Python2.7**, **PostgreSQL/SQLAlchemy**, **MySQL**, **Flask** and **Postman**. Development done mostly on **macOS** then ported to a distribution of **GNU/Linux**.

Lowes Inc., Mooresville N.C

October 2013 – Early May 2013

Short-term contract focused on refactoring and remediating legacy C/C++ code to support EMV credit and debit card functionality while maintaining existing card support. Responsibilities included code analysis, implementing both minor and major bug fixes, and updating documentation. Developed on the AIX platform using Oracle and DB2 databases.

Hilton, Memphis TN

April 2012 – August 3rd 2012

Contract role providing production support for the Central Reservation System of Hilton Hotels, with some occasional lightweight C, Perl, and Shell scripting on Solaris and GNU/Linux. Databases included Informix and MySQL.

Note: The role was initially represented as software development but primarily involved production support.

Hewlett-Packard, Nashville Tennessee

May 2010 – October 2011

This was a contract position that involved software maintenance and troubleshooting the technical aspects of TennCare for the State of Tennessee using **C**, **Pro*C**, **PL/SQL**, **Perl** and **ORACLE 11g** on **Solaris OS**. A major project involved porting the code base to new hardware, in this case 64-bit Solaris machines, using new compilers and upgrading to the latest version of Oracle 11g.

ACS, Nashville Tennessee

February 18th, 2009 - April 24th, 2009

Employed to migrate the Medicaid Management Information System (MMIS) software and data for TennCare (<https://www.tn.gov/tenncare.html>) from Hewlett-Packard infrastructure to new management under ACS. Responsibilities included analyzing and evaluating existing C code and creating Python3 automation scripts to facilitate system deployment on ACS networks.

Note: ACS lost its contract with the State of Tennessee within a few months, leading to project layoffs.

Nationwide, Columbus Ohio

October 2008 – Late December 2008

This position involved monitoring and analysis of data flows for annuities and other financial services and correcting any daily anomalies. The platform was **Solaris** using **Oracle** databases and a **proprietary scripting language**.

Note: Job was terminated due to funding cutbacks and lay-offs during the early days of the recession

Lexmark, Lexington Kentucky**June 2007 – October 2008**

This contract position involved bug fixes, code analysis, and refactoring/extending C code for high-end, secure prototype printers running Red Hat Linux (RHEL). These devices functioned as both network nodes and printers, targeting government agencies, military, and financial institutions. I initiated the development of scripts and utilities in Python 2.6 for integration testing.

Note: The project gradually diminished due to the economic downturn at the time.

IBM/ISS (Internet Security Systems) Atlanta Georgia**January 2007 – May 2007**

This was a four-month contract to develop a tool to rebuild standard **C/C++ applications** on **UNIX** platforms that had been developed in **Microsoft Visual Studio** using project files generated by the IDE. I developed the tool using **C**, **Mac OSX**, **Windows XP** and **Ubuntu Linux**.

Lowe's Companies, Wilkesboro North Carolina**February 2006 – October 2006**

This contract position was a project to internationalize software to be used at Lowe's first Canadian store. It involved maintenance and extension of **CGI**, **C**, **Perl** and **shell scripting**. All development was on **AIX**. The databases involved were **ORACLE** and **DB2**.

Cingular Wireless, Alpharetta Georgia**August 2004 – February 2006**

C++ development and maintenance of a large billing system on the **AIX** and **GNU/Linux** platforms using the current **ORACLE** databases. This also involved occasional modification of **shell scripts**. I **taught an introductory C++ course** to the System Integration (SI) team, and did **Perl** development to automate testing procedures and the configuration of test boxes. I was a contractor.

SAIC, Oak Ridge, Tennessee**October 27 2003 – August 2004**

I expanded the functionality of a large, eight-year-old, legacy **Perl** application used for network wide resource and account maintenance. The development was done in **Unix** and also involved **C**, **C++** and **ORACLE**. I was a contractor.

Note: The legacy application I was hired to maintain was discontinued in fall of 2004 at both the Oak Ridge and Los Alamos National Labs

University of Tennessee, Knoxville Tennessee**Center for Environmental Biotechnology****September 2002 – October 2003**

Designed and developed bioinformatics tools for monitoring microarray gene expression data. Responsibilities included designing and creating **MySQL** databases to track and report on experimental data. Development was conducted on **Red Hat Linux**, utilizing **Perl/PerlDBI** and **C**.

Manhattan Associates, Atlanta Georgia**July 2001 – July 2002**

Initially hired on a contract basis for code maintenance on a cross-platform warehouse management application written in **C++**. The primary environment was Linux, though both Linux and Windows were utilized, with Oracle as the main database. Development tools included MKS Toolkit, Microsoft Visual Studio, and Microsoft Advanced Windows Server OS. After six months, I transitioned to a full-time employee.

Note: This position ended due to lay-offs resulting from the early 2002 recession.

LHS/Sema Group Telecom, Atlanta Georgia**January 2000 – July 2001**

Code maintenance and **documentation**, on several **UNIX** platforms, for a large legacy-billing engine written in **C/C++**. This project used the current **ORACLE databases**. I attended in-house classes on **Object Oriented Analysis and Design (OOAP)** and **Java**. I was a contractor