Paul A. Morrison

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Education

The College of William & Mary | Bachelor of Science — **Williamsburg, VA**
Major : Mathematics | Minor : Computer Science — Expected May 2020

Computer Science Coursework: Data Structures such as linked lists, stacks, queues, priority queues, binary trees, heaps, Huffman trees, and B-trees, taught with Python; Computer Organization concepts including Assembly programming and general computer architecture; Algorithms design and implementation; Principles of Programming Languages, their capability and syntax, including the basics of functional programming, Pascal, C, and C++.

Mathematics Coursework: Foundations of Mathematics, including most fundamental theorems leading to Abstract Algebra and Analysis; Linear Algebra leading to surveying Operations Research and Linear Programming; Multivariate Calculus; fundamentals of Probability Theory; applications of Ordinary Differential Equations.

Thomas Nelson Community College | Associate of Science — **Hampton, VA**
Specialization : Computer Science — May 2017

Technical Coursework: Two semesters with hardware, networking, binary encoding, logic gates, and Von Neumann architecture. Two semesters with Object-Oriented Design and Procedural Programming concepts, taught with C++. Highest level of Mathematics courses: Calculus II.

Skillset

Back End and Operating Systems

C | C++ | Python | Assembly | Osx | Windows
Linux/Windows/Osx CLI | Powershell | Docker CLI/Dockerfile

Front End, Presentation Software, and Collaboration Tools

HTML | CSS | LaTex | Word | Excel | Power Point | GitHub | GitLab | BitBucket | Slack
Agile Development | Jira/Confluence | Jenkins | Google Apps (Docs, Sheets, Drive, etc.)

Communication, Leadership, Training, Volunteerism

- Creative team solutions, from coding with a group to training and teaching to managing a small workforce.
- Business–client relations; experience with and appreciation for front–end and back–end support in retail and technical environments.
- Training and education; extensive experience, from making a pizza to advanced mathematics and programming syntax.
- Volunteer work with the Salvation Army, Campus Kitchens at William & Mary, and various food bank programs.
- Organizing and event planning, including group project meetings, social events, and school hackathon trips.
- Smart, effective technical documentation; explaining and summarizing data trends and program functionality, as well as in-code specifications.

Technical Work Experience

Science Applications International Corporation — **Langley Research Center, Hampton/Newport News, VA**
LITES II Intern — 2019 – Present

- Worked on the STI (Scientific and Technical Information) project under an SAIC contract for NASA.
- Created software to test a machine learning library's usefulness to a PDF document analysis team.
- Instructed about and used many modern collaboration tools to communicate with and assist career software developers.

Thomas Nelson Community College — **Williamsburg and Hampton, VA**
Senior Peer Tutor and private tutoring — 2016 – 2018

- Tutored students both privately and through the tutoring program at TNCC in English, History, Mathematics, and Computer Science.
- Responsibilities of senior position at the off-main campus included delegation and proper documentation management and creation.

Pizza Hut Franchise — **Carrollton, TX**
Restaurant General Manager — 2011 – 2013

- Management and documentation of inventory; identifying product trends leading to effective truck ordering; making final hiring decisions; maintaining employee and cleaning schedules; training employees to prepare and make new food products, introduced at least once a month.
- Helped develop a training system called B.L.A.S.T. ("Believe, Listen, Apologize, Satisfy, Thank") for resolving customer issues.

ThyssenKrupp Elevator America — **Irving, TX**
Support Specialist — 2001

- Worked in a support center providing software solutions for offices nationwide providing technical support for elevator technicians.
- Responsibilities included database and inventory management, swift email communication and support, and creating custom software.

Stream Tech Support — **Carrollton, TX**
Technical Support Representative — 1999 – 2000

- Worked in a technical support facility that had multiple teams providing front end tech support for many companies.
- First contract: Earthlink ISP. Provided basic solutions to customers having problems getting online.
- Second contract: Dell Laptop Support. Provided in-depth solutions to customers having issues with booting, file management, internet connectivity, and device drivers.

Projects and Other Experience

Binary Encoding Program

Wrote a program in Python, along with custom min-heap and Huffman Tree classes, to implement a working version of the standard binary encoding algorithm.
The program accepts string input and creates an encoding for translating binary strings into alphanumeric strings.

Erdős–Rényi Graphs

Wrote a C++ program that generates thousands of graphs, abstracted as 1-d arrays, and creates CSV files for spreadsheet input. The program tests the effect of modulating the probability of including an edge vis-à-vis the connected component size.

Shift Lead, Campus Kitchens

Leading volunteer shifts for food recovery and cooking for many food-insecure families in the Williamsburg area has been a very rewarding experience. A shift lead must be able to learn new names and interact with new people every shift and must submit inventory documentation at the end.

Organizer, Puzzlemaster

Participated at the W&M hackathon Cypher V as both an organizer and an event character. Created a series of puzzles with a partner for the "puzzle challenge" that had never been organized at Cypher before. Pictures of me in a griffin costume provided upon request.

MetadataExtractionUsingGrobid

Created a program (MEUG) that runs inside a Docker container to assist STI document analysis. It sends PDFs to a machine-learning library called GROBID, which returns TEI-compliant XML files with bibliographic data. The program then parses the XML to extract and analyze metadata such as authors, abstracts, and titles.

Personal Website

Created a custom, professional website completely from scratch. Using self-taught techniques and online references only, I wrote the entirety of the HTML and CSS for the website at

https://pamorrison.com

The first phase of the project took only about 4 days, and in that time I learned and incorporated elements of modern web design, including "mobile-first" and the separation of structure from style. The site is a live, functioning work-in-progress, and it has been through 3 overhauls so far, with more planned, so please visit and tell me your thoughts!

Ray Caster Project

Wrote a program in C that creates PPM images based on center coordinates and RGB values of spheres. The implementation includes a light source, along with shadowing and a gradient effect for the background. This was part of a Ray Tracing assignment, and the final product was a substantial modification.