**Paul A. Morrison**

pamorrison@email.wm.edu | devopablo@gmail.com | https://pamorrison.com | 4907 Falkirk Mews, Williamsburg VA  | 214-605-4348

# Education

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| 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

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| Programming Languages, Creation Tools, Operating Systems, Collaboration Sites *C | C++ | Python | Assembly | HTML* | *CSS* | *LaTex | Word | Excel | Power Point | Shell | MacOS | Windows | GitHub | Slack | Google Apps* | *Agile Development* 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

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| 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  * General restaurant management functions, including management and documentation of inventory; identifying product trends leading to effective truck ordering; making final hiring decisions, based on identifying the best candidates; 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 that provided debugged 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 packages.  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 various issues with booting, file management, internet connectivity, and device drivers. |

# Projects and Other Experience

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| **Custom 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 takes string input and uses it to create an encoding for translating binary strings to alphanumeric strings. | **Erdős–Rényi Graph Generator**  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. | **Coin Catch**  Wrote a program in C++ and currently working in Android Studio with a partner to create a budgeting app called “Coin Catch” with a full script and graphics to be published on Google Play. The mock-up in C++ is fully functional, and we are working on the port currently. | **Personal Website**  Created a custom, personal 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 entire project took about 4 days, and in that time, I learned about and incorporated certain elements of modern web design, including, among others, mobile-first and separating structure from style. The site is a work-in-progress but live and functioning well. |
| **Shift Lead, Campus Kitchens at W&M**  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. | **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. |