Alfonso T Canady Jr

Software Dev| Game Dev | Instructor

Memphis, TN |alfonso.canadyjr@gmail.com | 901-846-2547

Portfolio | Github | LinkedIn

With a solid background in software development, I've honed my ability to create dependable and effective applications. I've worked as a developer and as an instructor, spurred on by my passion for learning and fostering th
e next generation of devs. I'm always eager to embrace new technologies, to share what I've learned with others, and find new fresh and creative solutions that drive success.

EXPERIENCE

Huntington Ingalls Industries (*Army Research Laboratory*) – Software Engineer II

January 2024 – Present | *Secret Clearance*

- Designed, implemented, and tested software for Electromagnetic Field Sensing research, leveraging Python and MATLAB.
- Identified project tasks to align with client requirements and collaborated with supervisors to define research objectives.
- Developed Python scripts to efficiently parse and process gigabytes of binary data from Linux-based ARM32 sensors, using NumPy and Pandas to generate CSV outputs for client and MATLAB-based data modeling.
- Utilized MATLAB's Optimization Toolbox to create predictive models from large sensor datasets, automating the generation of tables, plots, and CSV files per client specifications for academic research publications.

Actalent (*Army Research Laboratory*) – Computer Software Engineer

June 2023 – January 2024 | *Secret Clearance*

- Developed and maintained software for the Electromagnetic Field Sensing Research Branch, using Java, Python, and C++.
- Designed, implemented, and tested a Java-based visualization tool integrating existing DoD APIs to render acoustic and location data on a Google Earth-like interface.
- Managed Linux-based ARM32 systems entirely through SSH and command-line interfaces.
- Used Google Protocol Buffers, C++ Sockets, and Java Sockets to communicate between applications and hardware on the same network
- Imaged and configured Linux-based ARM32 systems for clients to ensure optimal system functionality.
- Created Python virtual environments with Conda to streamline dependency management for development and research.
- Optimized Python code for embedded systems, rewriting key components in C++17 to improve performance and reduce power consumption.
- Designed and implemented power fluctuation monitoring and detection software in C++ for real-time analysis.
- Leveraged VirtualBox to manage multiple Ubuntu versions when compatibility between software and OS version was an issue.

- Leveraged tools such as Make and Maven to automate the build process of C++ and Java applications.

Integration Innovation Inc – C# / Unity Developer
Dec 2021 – May 2023 | *Secret Clearance*
- Developed software and systems for use in training military personnel by modeling various military vehicle and air defense capabilities and concepts in Unity using C#.
- Collaborated with cross-functional teams in an Agile environment to deliver high-quality software solutions on schedule.
- Followed storyboards provided by ISDs (Instructional Systems Designers) and work with SMEs (Subject Matter Experts) to develop content in Unity for use in training military personnel.

ProTec – Tokyo, Japan (Yokota Air Force Base)
Oct 2020 – Jan 2021
- IT Training position
- Installed and maintained electrical systems under the supervision of lead engineer

Cinilope –Software Engineer (Freelance Part-Time)
June 2020 – May 2023
- Designed and developed code for behavioral modeling of drones or other UAVs to simulate their performance in a virtual environment using Unity.
- Developed and maintained mobile applications for Android, Apple, and Windows Holo Lens platforms involving drone flight simulations
- Developed backend C# scripts to enhance program capabilities.
- Refactored existing code and implemented appropriate data structures and algorithms to reduce time and space complexity and follow proper OOP principles.

Code Crew Code School – Lead Instructor
February 2021 - August 2021
- Developed Full Stack Developer curriculum in conjunction with Seattle's Code Fellows Coding Boot Camp
- Trained Teaching Assistants in teaching techniques and software development practices
- Instructed beginner – advanced CS Courses on Full-Stack software development

Code Crew – K-12 Instructor and Curriculum Designer
May 2019 - October 2020
- Designed, developed, and taught Computer Science Curriculum for K-12 focusing on Python and Java
- Developed CS and Teacher Training for K-12 Instructors and Teaching Assistants

TECHNICAL SKILLS

Languages: C++, Java, LUA, C#, Python, MATLAB
Tools: Linux CLI, Unity, Git, Github, Agile, Atlassian Tools (Jira, Bitbucket) for CI/CD DigitalOcean Cloud
BuildTools: Make, Gradle, Maven

INTERPERSONAL SKILLS

Inquisitive (willing to learn new things) | Able to work independently or in a team | Great time management | Ability to multitask | Excellent verbal and written communication skills with great attention to detail and accuracy | Creative thinker and problem solver.

EDUCATION

Rhodes College- Memphis, TN
B.S Computer Science (Minor in Mathematics) Cum Laude, 3.5 GPA – 2019

AWARDS

Memphis Flyer 20 under 30 award recipient: Memphis Flyer | 20 < 30 The Class of 2022
For outstanding contributions to the city and shaping its future.

PROJECTS

Ecosystem Simulation *– Unity / C# / Artificial Intelligence /GitHub Repo*

- Developed natural selection simulation modeling relationship between prey and available food in the environment.
- Created a system for genetic variation allowing set attributes a chance to mutate to the next generation resulting in an agent more “fit” to survive in said environment.

Portfolio Website *– HTML / Bootstrap / DigitalOcean*

- Portfolio website written in HTML and Bootstrap CSS. Webpage hosting setup with DigitalOcean’s cloud app hosting

Additional projects and code available at https://canadydev.io/#projects