Malakai Spann

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A full-performance, devoted software engineer focused on data processing, developing scalable, cross-platform software, and enhancing development processes through formal methods and principles.

QUALIFICATIONS

Florida Institute of Technology
Bachelor of Science, Computer Science
GPA (4-point scale): 3.2

Top Secret/Secret Compartmented Information Clearance
Polygraph & Full-Scope Background Investigation
January 2024

TECHNICAL EXPERIENCE

Programming

Languages: C/C++, Java, Python, HTML/CSS, Java/TypeScript, Go, Rust, Bash

Libraries/Frameworks: PyTest, Google Test, NumPy, Pandas, React, Tailwind

Tools: AWS, Github/Gitlab, Docker, JIRA, Jenkins, Heroku, Vercel

Fundamentals

Strong background in the formal SDLC and Object-Oriented Programming. Also experienced with data processing, embedded systems, software security, and web-based technologies.

PROFESSIONAL EXPERIENCE

National Security Agency, Fort Meade, MD
Software Engineer, Computer Network Operations, March 2024 – Current

- Lead effort to improve development process using DevOps technologies and formal software methods.
- Lead effort to integrate modern build environments for software products.
- Manage technical communications with external product owners to develop enterprise-level solutions.
- Collaborate with a small team to ensure customer satisfaction and product quality.
- Design, develop, and test high-performance data processing, storage, and transmission features.

- Utilize industry standard tools to create/track, prioritize, and resolve customer issues, feature requests, and improvement work.

Lockheed Martin, Denver, CO
Software Engineer Intern, Enterprise Flight Software, May 2022 – Dec 2023

- Collaborate a with small team to develop safety-critical, configurable software for data processing.
- Utilize data transportation protocols (I2C, SRIO, MS1553-B, SpaceWire) to implement a data network across embedded spacecraft device.
- Participant in customer and business area planning meetings to ensure product goals are achieved within schedule.
- Coordinate with internal and external resources to design, develop, test, and review code.
- Utilize DevOps technologies such as Docker, Gitlab, and various other CI/CD tools to ensure consistent delivery of working code and quality standards.

Florida Institute of Technology, Melbourne, FL
Information Technology Technician, Technology Support Center, August 2019 – May 2022

- Assist Students/Faculty with university systems.
- Assist in repair, network diagnostic, printer diagnostic, cloud service functionality, and general troubleshooting.
- Included minor programming to automate resolution of common issues.

PROJECTS

- Adjustable Image Recognition Keyboard System (AirKeys): A proof-of-concept, projection-based virtual keyboard utilizing Computer Vision to detect and transmit user input to multiple devices. Project heavily focuses on image recognition, hard/software integration, embedded development, and the development process. Serves as my undergraduate capstone project. Written in Python.
    - Project Pitch (Slideshow)
    - Project Website (In Progress)
    - Development process includes custom docker image/development environment using Visual Studio Dev Containers, custom scripts, and industry standard tools such as Sphinx and PyTest for documentation & quality assurance.

- SemMed – Neo4j: A project using the National Library of Medicine's Semantic Medline Database to create a graphical-relational database (Neo4j) using Python.

- Tic-Tac-Toe w/ AI: Uses a combination of the minmax (including an alpha-beta pruning version) algorithm and OOP concepts to create a Tic-Tac-Toe game in Python.

- Traveling Salesman Problem (TSP) w/ AI: A set of solutions and test runs for the classic Traveling Salesman Computing Problem using Python and the Genetic & Ant Swarm Optimization Algorithms.
    - Genetic Algorithm Version : An implementation of a genetic algorithm that explores the various decision-making methods applicable to the TSP while providing in-depth explanations of the design choices and their effects on the implementation.
    - Ant Swarm Optimization Version : An implementation like the genetic algorithm version that uses the ant swarm optimization algorithm instead.

- Tron (Simplified) : An implementation of a Tron game simplified to a single move. The application features a movable character, “Tron”, and multiple “bugs” attempting to move closer to Tron based on pathing calculated using Dijkstra’s Algorithm. Written in Python.

- Activity Calendar : An implementation of a database-like storage system utilizing a skip list. The application features commanding for data insertion, lookup, and visualization. Written in Java.

- Course Scheduler : An application that utilizes linked lists to find create a schedule with the most courses given a set of possible courses and their times. Written in Java.

- Recipe Viewer (Python): A set of applications that create a simple GUI for users to interact with preloaded recipe data. Both applications were primarily focused on emphasizing Python’s object-oriented development. Hyperlinks included below.
    - PIL & EZGraphics Version : Uses Python's PIL Module and EZGraphics to create a view-only GUI that displays preloaded recipes’ basic details like name, cook & prep times, and servings created. Once the GUI is closed, it also displays the same data in a tabulated view on the command line.
    - PYQT6 Version: Like the version above but provides new interactive features such as recipe searching and additional window popups containing more recipe information.

- Budget Manager: Uses PyQt6 to create and update an interactive GUI that simulates a Budget Manager with an emphasis on expenses. This project also is a simple application of data visualization. Written in Python.

Co-Curricular

National Society of Black Engineers (2019-Present)

Florida Institute of Technology, Melbourne, Florida. A club dedicated to cultural inclusion and fostering academic excellence on Florida Tech's campus. Members primarily tend to be of African/Caribbean descent, but membership is open to those from all races, religions, and backgrounds.

Black Student Union (2019-Present)

Florida Institute of Technology, Melbourne, Florida. A nationally renowned organization specially dedicated to providing academic and corporate opportunities to collegiate and pre-collegiate students and technical professionals in engineering and technology.

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