

# Malakai Spann

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A devoted software developer focused on data processing and developing scalable, cross-platform software .

## EDUCATION

### **Florida Institute of Technology**

Bachelor of Science, Computer Science

GPA (4-point scale) : 3.2

## TECHNICAL EXPERIENCE

### Programming

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

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

Tools : Github/Gitlab, Docker, JIRA, 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

### **Lockheed Martin, Denver, CO**

**Software Engineer Intern**, Enterprise Flight Software, May 2022 – Nov 2023

- Collaborate with a small team to develop safety-critical, configurable software for data processing.
- Utilize data transportation protocols (I2C, SPIO, 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.
- [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](#) : A implementation similar to 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](#): Similar to 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.