BRUCE MADDUX

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EDUCATION

University of Florida

August 2019 – May 2023

B.S Computer Science

Minor in Electrical Engineering

GPA: 3.94

University Research Scholars Program

University Honors Program

Relevant Coursework

Data Structures and Algorithms
Applied Machine Learning
Operating Systems
Application of Discrete Structures
Fundamentals of Programming 1& 2
Computational Linear Algebra
Intro to Computer Organization
Engineering Research
Prog. Language Concepts
Intro to Software Engineering
Intro to Database Systems
Digital Logic
Engineering Statistics

Lakewood High School

August 2015 – May 2019

Graduated Summa Cum Laude

SKILLS

Software: Python, C++, C#, Java, JavaScript, HTML, CSS, React.js / Native, SQL, Regex, MERN, Google Cloud Functions

Certifications: Solidworks User 2019, Inventor Professional 2018, 98-361: MTA: Software Development Fundamentals (C#) 2017, 98-364: MTA: Database Fundamentals 2017

EXPERIENCE

CartIt (3rd Place Overall) Jan 2022 - Feb 2022

Swamphacks VIII Hackathon

- Developed app using React Native allowing users to find lowest priced cost of grocery items in their area, displaying the price and corresponding location. Allowed user to submit their own receipts using Google Cloud Vision AI updating database with cheaper entries.
- Focused on implementing React Native frontend as well as worked with Google Cloud Functions, Maps, and Vision AI, and SQL database

Rumble in the Swamp Jan 2021 – Feb 2021

Swamphacks VII Hackathon

- Worked on creating 2D UF-themed platformer using React, Firebase, and a game library Phaser3
- Focused on implementing game engine and spirtes, as well as developing website user interface

Weather Systems Research Jan 2020 – June 2020

Undergraduate Researcher

- Worked with UF Graduate Students creating a database in SQL that stores weather data from hundreds of weather stations across Florida
- Developed a flagging system based on statistical analysis to determine if weather sensors were malfunctioning based on average readings in that area, alerting technicians if issues arose, allowing for accurate readings for data scientists and quick repairs

ACTIVITIES

Gator Motor Sports Website October 2021 – Present

Indepedent Project

- Forum website for UF's Gator Motor Sports club, made for internal use to discuss GMS topics
- Developed using Python Flask backend to handle user login, information retriveal and data storage
- Front end written using React.js to develop user-friendly UI

Power Smart Project Aug 2021 – December 2021

Independent Project

- Created React Native mobile app to help users save power and money by tracking their power bill info, giving daily tips, and recommending energy efficient alternatives based on current appliances.
- Used MERN stack, held user login and appliance info, used Google Maps API to get user location
- Used CircleCI with Jest unit tests and end-to-end tests to implement CI/CD.

Interpreter and Compiler Project May 2021 – August 2021

Independent Project

- Implemented lexer which performs lexical analysis breaking down sentences into tokens using regex, passed onto the parser stage which converts the tokens into an Abstract Syntax Tree
- Passed onto interpreter stage, based on token types would define variables within a scope, parsing through and passing onto the analyzer and generator steps to be generated into readable code

Computerized Economics Project Feb 2021 – Jun 2021

Independent Project

- Created program to allow users to determine the price and quantity that they should sell a product given consumer data on the price they are willing to purchase an item for
- Used statistical analysis as well as three data structures, a hash-map, a self-implemented binary search tree and self-implemented B+ tree to determine optimal values
- Developed the GUI in C++ to allow for users to submit data into system, prompting choices of finding equilibrium price points, market status given supply curve equations, or quantity demanded