

Jacob Welsh

919-612-6730 | jwelsh9@uncc.edu | <https://github.com/rufus1079> | <https://jacob.monsterjam.org/>

EDUCATION

University of North Carolina at Charlotte

B.S. in Computer Science | Concentration: Software Engineering | Minor: Mathematics

GPA: 3.78

Charlotte, NC

May 2024

SKILLS

Programming Languages: Java, Python, C++, HTML, JavaScript, CSS, MySQL

Foundational Concepts: Algorithms, Data Structures, React, NodeJS, Express, UML, Web App Design, Agile Methodologies

COURSE PROJECTS

Spotify Unwrapped Application, ITSC 4155 Software Development Projects

- Developed a full-stack web application featuring a React front-end and an Express back-end
- Integrated API calls to Spotify's servers to retrieve user data to enhance application functionality
- Utilized Spotify data to create an intuitive interface for users to view their own and other's listening statistics

The Blank Pages, ITIS 4166 Network Based App Development

- Engineering an Ecommerce application used for selling papers, using Javascript
- Employed the Model, View, Controller (MVC) architecture and Mongoose for database management.
- Integrated the Express framework and developed custom middleware for enhanced functionality

Reddit Clone Application, ITSC 3155 Software Engineering

- Engineered a Flask application in conjunction with SQLAlchemy that was partially inspired by Reddit
- Integrated User Authentication, Database, and the four CRUD resources for users, posts, and groups
- Collaborated with two other classmates in a Scrum development team

Coding Assignments 1-5, ITSC 3153 Intro to Artificial Intelligence

- Constructed uninformed search algorithms like Breadth First Search, Depth First Search, and Uniform-Cost Search, informed search algorithms like A* Search and Greedy Search, and adversarial search algorithms like Alpha Beta Pruning.
- Implemented the algorithms in a Pac-man style mini game where the pac-man AI had to navigate mazes and avoid ghosts in order to collect all the pellets
- Applied Q-Learning, Value iteration, and Policy extraction for pac-man style mini game and generic game scenarios with Python

UML Team Project, ITIS 3310 Software Architecture and Design

- Worked as a group to design a piece of software that greatly accelerated the speed and reduced the hassle of customer service
- Incorporated UML class diagrams, use case diagrams, and activity diagrams to create the outline for the software

Mobile Robotics, ITCS 4150 Mobile Robotics

- Learned how to programmed robots using the Robot Operating System (ROS) Middleware Suite
- Learned algorithms and mathematically equations necessary to be able to allow robot movement
- Programmed Turtle bot basic movement using ROS and implementing the Extended Kalman Filter

LEADERSHIP & INVOLVEMENT

Student Government Association (SGA)

Upperclassmen at Large/Parliamentarian

July 2023 - January 2024

- Successfully recorded and maintained attendance records for SGA general assembly and cabinet meetings
- Learned and enforced our bylaws to ensure that all active members were abiding by the rules and regulations of SGA
- Actively participated in the legislative process by contributing to discussions and debates on proposed measures during the General Assembly sessions.

Pi Kappa Alpha

External Vice President

November 2022 - November 2023

- Spearheaded campus outreach efforts and successfully cultivated positive relationships with 15 other campus organizations
- Directed a cabinet of six officers and three committees and designed training plans for all 6 cabinet chairs
- Oversaw and directed in the organization, planning, and execution of all external fraternity events

WORK EXPERIENCE

Texas Roadhouse

Server/To-go

Charlotte, NC

July 2023 - Present

- Demonstrated interpersonal skills by managing customer and company needs during high volume periods
- Facilitated optimal workflow among my colleagues by providing assistance during periods of high workload, ensuring their ability to operate efficiently throughout their shifts.
- Conducted comprehensive training sessions for newly onboarded personnel, equipping them with the requisite skills and knowledge to proficiently execute their day-to-day responsibilities within the To-Go department.