# WINSTON N. TAN

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## TECHNICAL SKILLS

**Programming Languages:** Java, C, C++, Python, HTML/CSS, JavaScript, MATLAB, Assembly, Ruby, Ocaml
**Libraries/Frameworks:** Node JS, Express, Jupyter, MongoDB, Neo4j, Flask, Pandas, NumPy, Junit, Apache, Ajax, jQuery, Bootstrap
**Tools:** Git/GitHub, Windows, macOS, Linux, RESTful APIs, Arduino, Blender, Postman, Anaconda, Google Colab

## EXPERIENCE

**Acclaim Technical Services (ATS)**

**Full Stack Developer/SWE Intern** **May 2023 – Aug 2023**

- Developed full-stack graph application that significantly streamlined the HR department's candidate process.
- Utilized Python/Flask and Django to develop the core functionality of the application (RESTful API endpoints).
- Integrated HTML, CSS, JS, jQuery, and Ajax to create dynamic web pages for data interaction and visualization.
- Incorporated Alchemy.js (open-source graph visualization library) to visualize data as nodes and edges.
- Created CSV parser which extracts information to generate Cypher queries for ingestion into Neo4j database.

**Extended Reality (XR/VR)/SWE Intern** **June 2022 – Aug 2022**

- Utilized Flask (Python Library) to develop API endpoints a customer prototype.
- Leveraged HTML to develop and update front-end design to the tool.
- Employed RESTful API methods to ingest data such as coordinates onto a Cesium GIS mapping system.
- Tested pre-released software such as Virtualitics (Advance AI Analytics Tool) to filter out data from large datasets (over 180,000 points) to create a pleasing representation and analysis for the customer.
- Deployed Blender to create a variety of 3D models to ingest into virtual reality worlds.
- Presented tasks and tools utilized through an interactive VR Presentation (via Spatial) to the ATS Team.

## PROJECTS

**Autonomous OTV Rover**, *C++, Arduino, Circuit Lab, WIFI Vision System*

- Created an autonomous rover capable of navigating a course via ultrasonic sensors and WIFI vision system.
- Optimized power output to motors for enhanced course/task completion and navigation.
- Lead a team of 7 to build a rover capable of extinguishing and reporting flames using snuffers, flame sensors, WIFI module, and servo motor; budgeted project using Microsoft Excel.

**Weather Application**, *HTML/CSS, JavaScript, MongoDB, Node.js, Express, RESTful API*

- Developed a weather application that displays weather information based on the city the user inputs.
- Used Node.js and Express to develop the server-side(backend) of the application. Express handles HTTP requests and performs specific tasks.
- Integrated Mongo DB to store and manage weather information, allowing users to access their search history.
- Implemented RESTful API to retrieve and fetch real-time weather information using an API.

**Impact of Per Game Stats on NBA Team Success**, *Python, HTML, NumPy/Pandas, BeautifulSoup*

- Gathered and parsed over 9000 data points regarding the top 50 teams from an NBA database. Focused on the top teams between 2010-2020.
- Utilized NumPy, Pandas to bring a thorough analysis of a team's success based on their season's statistics.

**Shell Simulator**, *C, Makefiles*

- Developed the guts of a shell that supports Boolean operations, pipes, and file redirection.
- Demonstrated proficiency in C programming by utilizing advanced features such as pointers, input/output redirection, makefiles, threads, and processes.

## EDUCATION

**University of Maryland, College Park** **Aug 2020 – May 2024**

*Department of Computer Science, Computer Science Major*

*Robert H. Smith School of Business, General Business Minor*

**Relevant Coursework:** Data Science; Data Structures; Web Application Development; Object-Oriented Programming; Discrete Structures/Mathematics; Computer Systems; Organization of Programming Languages; Algorithms; Calculus I/II; Differential Equations, Applied Probability and Statistics; Physics I/II; Intro to Electrical & Computer Engineering; Digital Logic Design; Engineering Design