Alvin Wong

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Education

University of Florida   Gainesville, FL
B.S in Computer Science   Expected Graduation: May 2026
Davis UWC Scholar (Full Ride), Dean's List, Honors Program   *GPA: 3.95/4.00*

Relevant Coursework: Data Structures & Algorithms, Computer Organization, Software Engineering, Info & Database Systems, Operating Systems, Computational Linear Algebra, Machine Learning Engineering, Full Stack Development

Technical Skills

Languages: Python, Java, C, C++, C#, JavaScript, TypeScript, HTML, CSS, MATLAB, SQL, ARM
Technologies: React.js, Node.js, Express.js, Oracle DB, MongoDB, TensorFlow, Scikit-Learn, PyTorch, Git, GitHub

Professional Experience

Just and Green Lab | *Research Assistant*   December 2023 - Present
- Conducting research under Dr. Xiang Yan on sustainable and public transportation to improve upon equitable mobility that addresses community needs.
- Developing a novel ML model utilizing LSTM networks and RNN to infer transportation modes from large-scale mobile GPS data combined with GTFS data from Jacksonville city.
- Analyzing trends within data to generate mobility matrices, employing visualizations in ArcGIS, and executing SQL queries to derive key insights.
- Identified key research gaps in predicting electric bus energy consumption, presenting and showing a need for a transferable ML model trained across different geographies and bus service types.

Projects

Spottingfy | *C++, Catch2, Regex, Qt Quick, Libcurl, Spotify Web API*   December 2023
- Developed a song referral application by creating a graph with over 180,000 song nodes that connected songs in a user's playlist through analysis of each song's audio features.
- Leveraged Spotify's RESTful Web API and libcurl to extract song information and audio features when given a Spotify playlist link and utilized Regex to parse the JSON data.
- Reduced sorting time by over 30% when compared to C++'s standard sort by implementing Bucket and Counting sort to create the graph.
- Created an intuitive and simple user interface with Qt Quick, implementing a search bar for the playlist link and updating the screen to show the recommended songs.

Quote Reflect | *React.js, Node.js, Express.js, JavaScript, CSS, HTML, API Ninjas*   October 2023
- Crafted a dynamic frontend webpage leveraging API calls to generate personalized quotes from a library of over 50,000 entries based on the user's input.
- Emulated backend functionality with a JSON Server and asynchronous request handling, allowing users to save their favorite quotes and search for them at a later time.
- Designed an intuitive user interface through external CSS files and independent React.js components.

Leadership & Involvement

UF Housing | *Resident Assistant*   August 2023 - Present
- Managed a floor of 80 students, supporting their transition into university through guidance and conversation.
- Fostered community by advertising and organizing ten events each school year with a total budget of ~$4,500.
- Designed engaging workshops, bulletin boards and graphics to equip students with vital information to navigate university life and properly utilize our university's resources.
- Advised and assisted the Infinity area government in executing additional events with a ~$1,500 budget, increasing the number of community wide events by 1.6 times compared to previous years.

Society of Asian Scientists & Engineers (SASE) | *Intern*   September 2022 - Present
- Collaborated within a team to plan events such as our annual Winter Banquet and an E-Sports tournament.
- Organized venues, RSVP forms, event programs, and equipment through various forms and personal resources.
- Engaged in weekly meetings with fellow interns to create new initiatives and grow our organization.