Will Farhat

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Education

University of Southern California – Viterbi School of Engineering   **Expected Graduation: May 2025**
    Bachelors of Science in Computer Science
    Honors: Viterbi Research Fellowship
Harvard-Westlake High School   **June 2021**
    GPA: 4.43/3.89

Skills

- C++, Java, Python, JavaScript/TypeScript/HTML/CSS, C#
- Node.js, React, OpenCV, TensorFlow
- Git, Linux, AWS EC2/S3/Elastic Beanstalk, Firebase, Docker/Kubernetes, Unity, Unreal Engine

Experience

Undergrad Research Fellow   **August 2021-Present**
USC One World Terrain Project, Los Angeles, CA
- Currently researching new advancements in photogrammetry and segmentation techniques for large-scale terrain mapping with deep learning; to date, have found and presented 12 different academic publications to the team
- Building synthetic training data in Unreal Engine, with the goal of expanding the pool of training data by 30%

Software Engineering Extern   **February 2021-May 2021**
USC QED Research Lab, Los Angeles, CA
- Developed Multi-Modal Visualizer, a Python and JavaScript visualization tool for medical time-series data, in 5 weeks
- Interviewed 6 lab researchers and ensured the tool fulfilled their primary needs: handle different types of sensor streams concurrently, automatically parse CSV files, and run on modern and legacy Windows, MacOS, and Linux machines
- Set up automated deployment in Kubernetes to remove the need for pre-installed dependencies and manual configuration

Freelance Full-Stack Developer   **July 2020-January 2021**
Tiny Headed Kingdom, Studio City, CA
- Designed Tiny Headed Game, a multiplayer video game for the company's Holiday 2020 marketing campaign
- Built with Node.js and PHP (backend), GameMaker Studio 2 (frontend), AWS (server hosting), and Firebase (database)
- Managed server CI/CD during the game's rollout; final product played by over 800 users and generated brand attention

Involvement

Avionics Software Developer, USC Rocket Propulsion Laboratory   **August 2021-Present**
- Currently developing C++ unit testing frameworks for spaceshot vehicle control systems, with the goal of increasing test coverage by 70% to include embedded software for data acquisition
- Working with the team to conduct proof testing and avionics validation on the upcoming Domepiercer rocket hardware

Organizer and Instructor, HW Inc   **November 2018-June 2021**
- Led and organized Harvard-Westlake's 45-person annual entrepreneurship camp for 3 years
- Taught workshops on competitive landscapes, branding, and MVP development
- During the Covid-19 Pandemic, programmed and deployed an online social hub in 3 weeks, allowing over 100 participants and alumni to communicate through a multiplayer recreation of the school library
- Presented each year's progress to audiences of up to 300 people

Computer Science Mentor, Leaders United for Change   **March 2020-June 2021**
- Supervised online Python tutoring sessions through Zoom for over 50 middle school students
- Wrote and taught a 6-week summer program about Python, HTML, and Machine Learning to 60 students

Projects

- **FreehandVR** – marker-less VR hand-tracking prototype using C# and Python
- **ReMotion** – 3D positional tracking software for AR game design using Python and C++
- **Markov Books** – procedural book extender using a Java implementation of Markov chains
- **MMOMaker** – open-source MMO framework for GameMaker Studio 2
- **Willfarhat.com** – personal full-stack website hosted on Linux and built with React, JavaScript/TypeScript, and Node.js
- **Coffeehouse** – WebRTC and JavaScript powered conference calling for music sharing and virtual jam sessions
- **Inc View** – Node.js video calling web app to connect multiple computers into a geographic camera network