# Will Farhat

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### Education

* **University of Southern California**– B.S. in Computer Science, May 2025
* **Harvard-Westlake High School** – Class of 2021, Honor Roll
* **BSA Troop 355** – Eagle Scout

### Experience

* [**USC One World Terrain**](https://ict.usc.edu/prototypes/one-world-terrain-owt/) – Undergrad Research Fellow **August 2021 – Present**
  + Working with the Department of Defense through USC’s Institute for Creative Technologies to prototype 3D terrain scanning techniques and long-term digital terrain storage
* [**USC Rocket Propulsion Lab**](http://www.uscrpl.com/) – Undergrad Technician **August 2021 - Present**
  + Working on avionics and simulation software for the upcoming Domepiercer Rocket
* [**USC QED Research Lab**](https://qed.usc.edu/) - Software Engineering Intern **February 2021 – May 2021**
  + Designed [Multi-Modal Visualizer](https://github.com/QED-Sensor-Visualizer/qed-sensor-webapp), an open-source data visualization tool for medical researchers to collect and analyze time-series data from multiple sensor streams
  + Used Python, React, and the TIG Stack (Telegraf, InfluxDB, and Grafana), all deployed with Kubernetes
* [**Tiny Headed Kingdom**](https://tinyheadedkingdom.com/) – Freelance Full-Stack Developer **July 2020 – January 2021**
  + Developed [Tiny Headed Game](http://www.thkgame.com/), a multiplayer video game for stuffed animal company Tiny Headed Kingdom; final game played by 800+ unique users
  + Built with Node.js and PHP (backend), GameMaker Studio 2 (frontend), and AWS (DB/Hosting)
* [**HW Inc**](https://www.inc.hw.com/) – Organizer and Instructor **November 2018 – June 2021**
  + Organized and taught classes at Harvard-Westlake’s 45-person entrepreneurship camp
  + Designed an online video game hub called [Inc Life](http://www.willfarhat.com/inclife/) for the camp during the Covid-19 Pandemic; enabled participants and alumni to communicate through a virtual recreation of the school library
* [**Leaders United for Change**](https://leadersunitedforchange.org/) - Computer Science Mentor **March 2020 – June 2021**
  + Supervised online Python tutoring sessions through Zoom for over 50 middle school students
  + Wrote and taught 3 online 20-person summer camps about Python, HTML, and ML

### Skills + Projects

* **Tools** – Git, Unity, Unreal, AWS EC2/S3/Elastic Beanstalk, Firebase, Docker/Kubernetes, GameMaker
* Languages and Frameworks
  + **Python, OpenCV, TensorFlow** **5 years**
    - [ReMotion](https://docs.google.com/presentation/d/1peyDdFdO-PX4OWXvgIV0yTC6snX3P-mz8nkTCC_MoaY/edit?usp=sharing) – 3D body tracking software
    - [FreehandVR](https://docs.google.com/presentation/d/137UCDOzPDin8n-XMrszZqyXMkZ7fOd4xSEfIhD5BCd4/edit?usp=sharing) – VR hand tracking software
  + **C++, C#**  **4 years**
    - [Outset](http://www.willfarhat.com/outset/) – a nonlinear 2D platformer that I’ve been working on since August 2017
    - [MMOMaker](https://github.com/willf668/MMOMaker) – open-source MMO framework for GameMaker Studio 2
  + **Java** **3 years**
    - Solutions for PicoCTF 2019-2021, Advent of Code 2018-2020
  + **HTML, CSS, JavaScript/TypeScript, React, Node.js**  **2 years**
    - [willfarhat.com](http://willfarhat.com/) – personal website hosted on a Raspberry Pi webserver at my home
    - [Coffeehouse](https://cfe.house/) – WebRTC powered conference calling for music sharing and virtual jam sessions