Jack Goler

jgoler@stanford.edu

EDUCATION

Stanford University, Palo Alto, CA — Expected June 2027

4.0 GPA

Pursuing Double Major in Applied Math and EE with intended Masters in Computer Science.

Menlo School, Menlo Park, CA — June 2023

4.29 GPA (weighted).

SAT: 1570 (800 math, 770 reading and writing)

WORK AND SUMMER EXPERIENCES

Stanford University Robotic and Embodied AI Lab — April 2025-Present

- Researching visuomotor policy on aquatic robots.

Stanford University Navigation and Autonomous Vehicles Lab — April 2024-April 2025

- Conducted drone research to optimize digital twin construction of environments using neural networks. Investigating effective downsampling practices of input data to create high-fidelity Neural Radiance Fields (NeRFs) and Gaussian Splats to optimize for limited GPU memory availability. Interfacing with COLMAP pose estimation for drone images, validating coordinate transforms between COLMAP runs, and connecting COLMAP to global reference frames (i.e. georeferencing).
- Expecting to publish a paper in April 2025.

Stanford University Medical AI and Computer Vision Lab (MARVL) — June 2022-February 2023

- Developed a platform to analyze open surgery using computer vision and machine learning that quantitatively evaluates the ability of surgical students. Collaborated with Beth Israel Deaconess in Boston, MA to develop the platform. Used by residents at Harvard. Worked alongside graduate and PhD students. Only high school student working at MARVL.

Snowflake Engineering Intern (NYSE:SNOW) — Summer 2021

- Worked on the apps team with a team of full-time engineers to build Snowflake's data exchange platform. Contributions consisted of developing the front-end interface, fixing dozens of bugs and optimizing existing code to both improve runtime and readability. Added new functionality to the platform during pair coding sessions.

Peninsula Bridge Curriculum Developer and Teacher — 2021-2022

- Developed and led a coding boot camp for 30 under-served middle school students.
- Recruited and trained eight teaching assistants to meet higher than expected student demand.

PROJECTS

Drone Path Planning for Neural Radiance Field Creation - Paper — 2024

- Developed an MDP-based algorithm for optimizing drone path planning to improve Neural Radiance Field (NeRF) creation in large outdoor environments. Demonstrated the algorithm's ability to enhance data capture efficiency and image quality, as measured by PSNR, in a Blender-based simulation.
- Tech stack: Blender, Python

Tree Equity - Video 2024

- Used computer vision to identify trees from aerial imagery, and calculated tree densities across the Bay Area. Proved the existence of tree inequity in the Bay Area and proposed a novel model to find the most cost-effective locations to plant new trees.
- Tech stack: Selenium, CV2, Scikit Learn

Photorealistic Sunset Scene Rendering with Ray Tracing - Write Up 2024

- Designed and rendered a sunset scene using ray tracing techniques, incorporating advanced features like realistic reflections, global illumination, volumetric rendering, and custom UV mapping and texturing.
- Tech stack: Blender, Python, Cycles

LEADERSHIP, EXTRACURRICULARS, AND COMPETITIONS

Stanford Flight Club 2023-Present

- Currently developing long range FPV UAV.

Menlo School All Student Body Vice President April 2022-June 2023

- Re-organized student life/school calendar; facilitated discussions between students and faculty; led assemblies; listened to/solved student issues.

Menlo School Junior Class President April 2021-June 2022

- Organized events and implemented changes to improve the school experience.

American Math Competition 2021 and 2022

- Scored 108 on the 2022 AMC 12B (AIME cutoff 81)
- Scored 99 on 2021 AMC 12B (AIME cutoff 84) / 97.5 on 2021 AMC 12A (AIME cutoff 91.5)