Zifan Zhou

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Education

- **University of California, Los Angeles (UCLA)** — Los Angeles, CA
  Bachelor of Science - Computer Science; GPA: 3.57/4.0 — *September 2021 – Present*
  Courses: *Data Structure, Software Construction, Computer Organization, Algorithms and Complexity, Operating Systems, Deep Learning for Computer Vision, Data Science, Machine Learning, Artificial Intelligence, Programming Languages, Computer Network*

Experience

- **ACM at UCLA** — Los Angeles, CA
  September 2021 - Present
  - **ACM ICPC**: Committed 10 hours weekly on ACM ICPC training on algorithms and data structures.
  - **ACM AI**: Learned the basics of Artificial Intelligence and committed time to a Computer Vision project.
  - **ACM AI Projects**: Learned more advanced topics in Computer Vision and Worked on image recognition of whales
  - **ACM Hack HackCloud**: Participated in the reproduction of cloud computing construction.

Projects

- **Real-Time Face Recognition (Computer Vision)**: Developed a real-time face recognition system using YOLOv5 for detection and identification of faces. Tech: Python, PyTorch, PyCharm (September 2021 - December 2021)
  - Achieved high accuracy in face detection and recognition, tested on *Wilder Face* dataset.
  - Optimized model performance for real-time processing to use in real-time scenarios.
  - Designed a better user interface system monitoring and control.
- **Autonomous Driving (Reinforcement Learning, Computer Vision)**: AI model to resolve a safer and more reliable autonomous driving vehicle. Tech: Python, PyTorch. (January 2022 - March 2022)
  - Reproduced *Learning to drive from a world on rails*, a high-ranked model on *CARLA* Leaderboard.
  - Added LiDar input to the original model to make the self-driving prediction more accurate.
  - Created a Google Colab Demo containing EgoModel as well as ResNet34 and Image Segmentation part of the model.
- **Bruin-O-Bruin Web Application**: A web application features board elimination game inspired by Triple Tile Tech: JavaScript, React (September 2022 - December 2022)
  - Built using Node.js, with React.js for the frontend and SQLite for the backend. Deployed on Azure for accessible online gameplay.
  - Implemented scoreboard logic and user authentication with React.
  - enhanced user interface for improved gameplay experience with icons from react-icons library.
- **Neural Radiance Fields (NeRF) Models**: Utilized NeRF models to create photorealistic 3D models from 2D images Tech: Python, PyTorch (January 2023 - March 2023)
  - Implemented a small-scale, experimental version of a NeRF model using PyTorch to test different datasets.
  - Conducted comprehensive testing of the NeRF model using standard datasets like Lego and Fern, as well as a range of custom photographs.
  - Explored advanced NeRF optimizations such as Mip-NeRF and Instant NeRF, analyzing their impact on rendering efficiency and quality.

Honors and Awards

- Dean's Honors List - Fall, 2021
- Louis Levoy Engineering Scholarship ($5500 per quarter) - Awarded to outstanding undergraduate students majoring in Electrical Engineering) - Winter & Spring, 2022

Skills Summary

- **Languages**: C, C++, C#, CSS, Go, HTML, JAVA, JavaScript, Kotlin, MATLAB, Python, Ruby, Scheme, SQL, OCaml
- **Development Tools**: Android Studio, VS Code, Visual Studio, Eclipse, IntelliJ IDEA, CLion, PyCharm, WebStorm
- **Frameworks**: Linux, GitHub, PyTorch, Tensorflow
- **Machine Learning**: Computer Vision, Autonomous Driving, Reinforcement Learning, Human-in-the-loop Machine Learning