

ALEXANDER KRISTOFFERSEN

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EDUCATION

University of California, Berkeley

M.S. in Electrical Engineering & Computer Science August 2022 - May 2023

- Emphasis on computer vision and graphics, advised by Prof. Joseph Gonzalez
- Technical Report: LoopNeRF: Exploring Temporal Compression for 3D Video Textures

B.S. in Electrical Engineering & Computer Science, GPA: 3.93 August 2018 - May 2022

- Eta Kappa Nu (EECS honors society) officer, Accel Scholar

Relevant Coursework:

Signals and Systems, Operating Systems, Optimization Models, Probability, Comp. Photography and Computer Vision, Machine Learning, Parallel Computing, Computer Graphics, Deep Neural Networks

EXPERIENCE

Skydio July 2023 - Present

Autonomy Engineer - Computer Vision (3D Vision) San Mateo, CA

- Shipped Skydio's Onboard modeling product on the X10 drone, building high quality photogrammetry models under compute limitations. (Python, C/C++)
- Led efforts researching gaussian splatting as an addition to the photogrammetry pipeline.

Google May 2022 - August 2022

Software Engineer Intern Sunnyvale, CA

- Within internal core data team, worked to increase reliability of Semantic Understanding pipeline, who's internal customers span all major products within Google.
- Increased prediction accuracy of incoming requests by 80% for reliable loadbalancing/loadshedding with minimal additional overhead. (Python, C/C++)

Berkeley Sky Computing Lab (formerly RISELab) August 2020 - May 2022

Undergraduate Researcher in Computer Vision Berkeley, CA

- Developed video super-resolution deep-learning techniques (DNN, GANs) that are efficient enough for real-time inference, applying this to low-quality video streams. (Python, OpenCV, PyTorch)
- Researched photo-realistic view-synthesis techniques for monocular 360 degree video for VR.

Butterfly Network Inc. May 2021 - August 2021

Research Scientist - Machine Learning Intern New York, NY

- Part of Butterfly's Deep Learning Team, developing models to run on a handheld ultrasound device at a fraction of the cost of standard machines. (Python, Tensorflow, C/C++, Swift)
- Developed IMU sensor fusion infrastructure and models to aid in education and visual accuracy.
- Bootstrapped from low-level driver code, requiring design up through S3 backend and tensorflow models.

PROJECTS

Nerfstudio: A Collaboration Friendly Studio for NeRFs May 2022 - Present

- Developer for Nerfstudio, an open-source API for creating, training, and viewing NeRFs and 3DGSs.
- Built multiple user-facing features, including camera pose optimization, Google Colab support, equirect-angular image support, and extensive documentation for a project with almost 8 thousand GitHub stars.

TECHNICAL STRENGTHS

Languages/Skills: Python, C++, C, Java, SQL, Assembly (RISC-V, x86), Unit Testing, CUDA, Bash

Tools: Vim, VSCode, Docker, Valgrind, GDB, Jupyter Notebook, Git, Arduino, Unix, PyTorch, Tensorflow