

ABHIK AHUJA

+1 (209) 361-4528 — ahujaabhik@proton.me — abhikahuja.com — linkedin.com/in/abhik-ahuja — Bay Area, CA

EDUCATION

University of Cambridge

June 2024

Master's Advanced Computer Science

Focus: Deep Learning, 3D Computer Vision, Multi-View Geometry

Selected Courses: Advanced Graphics and Image Processing, Machine Visual Perception, Multi-modal Machine Learning

University of California, Berkeley

May 2023

Bachelor's Computer Science, Bachelor's Mathematics

GPA: 3.85/4.0 (Distinction)

Focus: Machine Learning, Computer Vision, 3D Reconstruction

Selected Courses: Computer Graphics and Imaging, Efficient Algorithms, Operating Systems, Databases

EXPERIENCE

Berkeley AI Research Lab (BAIR)

July 2022 – September 2023

Software Developer / Machine Learning Researcher

Berkeley, CA

- Built text-to-3D **generative AI** models using Neural Radiance Fields (NeRF) and 2D Diffusion models for Nerfstudio, a modular **open-source Python** NeRF repository (Co-authored paper, published SIGGRAPH '23).
- Implemented 9 new features in 3D NeRF visualizer (**React**, **Three.js**) and backend for creative users, including camera path editing, saving, and FOV interpolation (dolly zoom) for video renders.
- Work used by major industry players including Netflix, Lucasfilm, BBC, etc. with over 8k stars on GitHub.

Amazon

May 2022 – August 2022

Software Development Engineer Intern

Seattle, WA

- Reduced deployment time by over 300% by designing and building **AWS CI/CD** pipeline, automating product release process and enabling seamless rollbacks.
- Engineered custom software versioning infrastructure to facilitate rapid product iteration for business partners.
- Utilized **AWS Lambda (Java)** to store minified product updates in **DynamoDB** to track and modify product releases.

UC Berkeley SLICE Lab

October 2020 – May 2022

Programming Languages Researcher

Berkeley, CA

- Co-authored paper for automatic bug repair in Verilog code using SMT solvers (under review ASPLOS '24).
- Wrote compiler pass in **Scala** to automate repair of logical loops in circuit designs, enabling automatic translation between hardware description languages.
- Translated RISC-V CPU from Verilog to Chisel, conducted **unit testing**, and presented work during lab showcase.

CDK Global

June 2021 – August 2021

Software Engineering Intern

San Jose, CA

- Accelerated software testing by 400% by creating **React** app to manage and streamline testing infrastructure.
- Utilized **PostgreSQL** database to interface projects fetched from Jira API with 100s of internal testing services.

PROJECTS

- **Home Lab**: Manages self-hosted services including calendar, document storage, website analytics, and more behind reverse proxy on personally-maintained **Linux** server (**Docker**, **Nginx**, **Apache**).
- **DiffGEM**: Diffusion-guided editing of 3D **generative adversarial network** (GAN) models from a text prompt. Generates photorealistic 3D objects with higher prompt coherence and quality than prior methods (**Python**, **PyTorch**).
- **VRNeRFs**: Developed VR viewer for NVIDIA's Instant-NeRF library. Translated movements and position of VR headset into NeRF camera-space to render a NeRF in stereo 3D (**Python**, **OpenVR**).
- **Tempus**: Full-stack engineering lead for 7-person international team. Built web application with real-time posts and attractive UI to provide supportive community for improving mental health (**Next.js**, **MongoDB**).
- **Uni**: Created iOS link tracker remover to improve user privacy when opening links. Parses tracking parameters with **Regex** and swaps 4 sites with open-source alternatives. Integrates into iOS share sheet for easy access (**Swift**, **SwiftUI**).

SKILLS

- **Languages**: Python, Java, Typescript/Javascript, Scala, C, C++, SQL, OCaml, HTML, CSS, \LaTeX
- **Technology**: React, Node.js, Flask, JQuery, Three.js, Next.js, Linux/UNIX, Docker, Git, PyTorch, NumPy, Matplotlib