# Jeffrey Shen

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## EDUCATION

**University of California Berkeley** **May 2023**
**B.S. Electrical Engineering and Computer Science** GPA: 3.82
Courses: Computer Vision/Graphics, Neural Networks/ML/AI, Optimization Models, Databases, Computer Security, Data Science Principles, Operating Systems, Algorithms, Computer Architecture, Data Structures

## SKILL HIGHLIGHTS

Proficient in: Python, Java, C/C++, C#, Git/GitHub, Node.js, React, Unity/UE4, pytorch, OpenCV, pandas, SQL
Familiar: Go, JAX, OpenGL, Angular, GraphQL, MongoDB, AWS, Linux, RISC-V Assembly, Scheme

## WORK EXPERIENCE

**Google – Software Engineering Intern,** Mountain View, CA **May 2022 – Aug 2022**
- Designed end-to-end workflow that enables device-initiated traffic to Nest API for Matter and smart hub
- Developed new roles, policies, and permission evaluation to expose new auth check for devices (Java)
- Integrated flow in 3 APIs with QPS of >1mil using experiments and monitored for discrepancies in prod

**Qualcomm – Software Engineering Intern,** San Diego, CA **May 2021 – Aug 2021**
- Created automated test framework for 5G modem SW sleep prediction algorithm (C/C++, Python, XML)
- Wrote Python Jupyter notebook to analyze/visualize data from test framework for algorithm comparison
- Designed and implemented new sleep algorithm (13% more sleep time to improve modem battery usage)
- QHacks Intern Hackathon Award: full-stack web app with custom facial recognition (Python, React)

**The Sipher Company – Backend Software Engineering Intern,** Berkeley, CA **April 2021 – Dec 2021**
- Integrated backend AWS S3 bucket data files with MongoDB using AWS Lambda Python deployment

**Northrop Grumman – Software Engineering Intern,** Redondo Beach, CA **Jun 2020 – Dec 2020**
- Implemented API for Ansible Dashboard to configure VMs, deploy Ansible Roles in Node.js and MongoDB
- Created dynamic table of VM performance metrics and added Git integration on frontend with Angular

**Harmony.One – Engineering Intern,** Mountain View, CA **Jan 2020**
- Developed cross-shard token transfer test for multi-shard PoS blockchain with AWS to generate 1,000 TPS

## EXTRACURRICULARS

**CS 184/284 Computer Graphics and Imaging – Teaching Assistant** **Jan 2023 – Present**
- Taught discussion, developed project on rasterization, ray-tracing, texture map, simulation (C++/OpenGL)

**CS 194/294-26 Computer Vision and Computational Photography Course Staff – Reader** **Aug 2022 – Dec 2022**
- Assisted students in Office Hours and managed release for face morphing project using triangular meshes

**FHL Vive Center for XR – Robot Open Autonomous Racing (ROAR) Simulation Team** **Aug 2021 – Present**
- Built OpenDRIVE map with segmentation in Unreal Engine environment for Carla autonomous driving

**Computer Science Mentors at UC Berkeley – Data Structure (CS 61B) Course Coordinator** **Aug 2020 – Present**
- Organized tutoring sections for over 80 mentors, creating worksheets, walkthrough videos, and pedagogy

## PROJECTS

**Image Quilting, Art Style Transfer Final Projects (CS194-26 Computer Vision)** (bit.ly/jeffrey-cs194-proj)
- Trained VGG-Net on style/content loss to transfer style, seam finding for image quilting (Python/Pytorch)

**Cloth Simulation Project (CS184 Computer Graphics)** (bit.ly/jeffrey-cs184-proj4)
- Created spring-based cloth simulation which handles collisions and uses Blinn-Phong shading (C++)

**BERT Language Model in JAX Final Project (CS182 Deep Neural Networks)**
- Wrote BERT model fine-tuned on Masked-language and Next Sentence Predict to 63% accuracy (Python)

**Optimal Breakout Room Happiness Solver Final Project (CS170 Algorithms)**
- Solved NP Linear Prog reduction using AWS, GCP, placed 6$^{th}$/244 classwide for optimal solutions (Python)

**LAHacks 2021 EasyEV Web App [1$^{st}$ Place BlackRock Challenge]** (easyev.netlify.app)
- Built web app with EV recommender and news sentiment analysis (React, GraphQL, GCP, stocks APIs)