SNEHEIL SAXENA

+1 858-349-6808 | sneheilsaxena@gmail.com | sneheilsaxena.github.io | GitHub: sneheilsaxena | linkedin.com/in/sneheilsaxena

EDUCATION

University of California, Irvine — **Irvine, CA**
M.Eng. in Electrical Engineering & Computer Science (EECS) — **Graduating Dec 2025**

University of California, Berkeley — **Berkeley, CA**
Global Access Program (Visiting Student) — **Jan 2024 – May 2024**

University of California, San Diego — **La Jolla, CA**
BS in Mathematics & Computer Science — **Sept 2016 - Dec 2020**

LANGUAGES AND FRAMEWORKS

Proficient: Python, C++, C, Java, JavaScript, HTML, CSS, R **Familiar:** Ruby, SQL, MATLAB
Frameworks: React, Linux scripting (Bash/Unix shell), GDB, Valgrind, Git, PyTorch, Google Magenta, Redux, RSpec, Firebase, PyCharm

WORK EXPERIENCE

Engineer, AR/VR Research Division, *Qualcomm*, San Diego, CA — **Nov 2021 – Oct 2023**

- Designed & implemented a **Python** utility to **automate** the calculation of **average power consumption** of 6DoF features on chipsets for AR/VR devices
- Utilized **Computer Vision & Machine Learning** techniques to improve **controller-free hand tracking** for AR/VR headsets
- **Analyzed power data** for a point cloud-to-depth algorithm comparing power consumption across different modes on Qualcomm chipset to present to external customers such as Meta (single threaded vs multi-threaded, low clock rate vs high clock rate, low vs high framerate)
- Implemented regression models to predict chipset performance for other modes
- Used depth estimation techniques, model fitting & parameter optimization while working with point clouds & 3d meshes to prepare annotated images to be used as training data for computer vision algorithms

Software Engineer Intern (Full-stack), *Housecall Pro*, San Diego, CA — **June – Aug 2019**

- Implemented design enhancements to the website template for home service businesses using **React & Material UI**, and re-factored existing components
- Created backend server endpoints to perform CRUD actions in **Ruby on Rails** and implemented functional tests with **RSpec**

Software Engineer in Test Intern, *Reliance Jio Infocomm Ltd.*, Frisco, TX — **July – Sept 2017**

- Developed & implemented extensive **black-box test suite** for the KaiOS operating system on Jio Phone using Python scripts via an **automated test framework**
- Collaborated with an offshore QA team, collecting feedback on generated reports

RELEVANT PROJECTS

Front-End Performance Analysis & Optimization Reports — **April – Aug 2020**

- Analyzed website performance using metrics like relative bandwidth consumption, rendering times, security, and accessibility
- Optimized websites using techniques like code minification, image compression, progressive loading & changing caching frequency of static elements
- Recommended data-driven solutions considering factors like development overhead & demographics of intended audience (network & language constraints)

Recurrent Neural Network for Language Identification (Classification) — **Sept – Dec 2018**

- Built and trained a character level RNN to classify what language a word is in with ~80% accuracy for 5 languages
- Used PyTorch & parsed corpora using Regex; ran each letter of a specific word through RNN sequentially to calculate the loss based on the final output

IEEE Club Quarterly Project, Smart Deadbolt Unlock, UC San Diego — **April – July 2018**

- Implemented a system that unlocks the deadbolt on a door based on a **two-factor authentication (2FA)** process: **facial recognition** and **SMS**
- Implemented two-factor authentication: SMS is sent to mobile device via Django server on a Raspberry Pi after a recognized face is detected by the camera. Door is unlocked via a torque motor using Arduino interface when user replies with the correct password

EXTRACURRICULARS & AWARDS

Sponsorship Lead, Triton Engineering Student Council, UC San Diego — **May – Nov 2019**

- Lead the sponsorship team at TESC, a student-org. under the Jacobs School of Engineering to raise funds for events like SD Hacks (UCSD's hackathon) with 750+ attendees every year and Decaf, the winter engineering career fair

2nd Prize, HackIoT 2018, University of Southern California, LA — **March 2018**

- Worked in a team of 4 (out of 25 teams) on HomeSafeHome, a **home monitoring system** which maintains logs of access attempts by unknown entities at the door (unrecognized faces in camera feed) and windows (via sensors) using a **Django server** set up on a **Raspberry Pi**. Server front-end displays the information & **camera livestream**