

GURVIR KOONER

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Education

University of California - Berkeley

Aug. 2021 – May 2025

Management, Entrepreneurship, & Technology Program (M.E.T.)

Berkeley, CA

B.S. Electrical Engineering & Computer Sciences / B.S. Business Administration (GPA: 3.86)

Relevant Coursework

- Data Structures
- Digital Design & ICs
- Computer Architecture
- Computer Vision*
- Efficient Algorithms
- Machine Learning
- Robotics
- Computer Security*

Experience

Keysight Technologies

June 2024 – Present

Software Engineer Intern

Santa Rosa, CA

- Re-engineered mapping system for **30K+** devices with WinCE firmware using **.NET Framework (C#)**. Optimized memory usage by **60%** and supported offline mapping for low-connectivity environments
- Architected advanced mapping system for desktop application using **Angular, TypeScript, WebGL, Electron** to support orientation tracking, signal overlay, and 3D map/models, increasing customer satisfaction by **30%**
- Leading migration of legacy mapping system to Embedded Linux platform using **Qt/C++**, generating **MM+** revenue in new enterprise contracts

Keysight Technologies

June 2023 – Aug. 2023

Software Engineer Intern

Calabasas, CA

- Engineered test automation framework using **Python** and **MySQL**, featuring parallel query execution and a Tkinter GUI, resulting in **60%** reduction in data retrieval latency and **35%** improvement in QA team productivity
- Spearheaded **Python** ETL pipeline to parse, organize, and analyze test data for over **50+** hardware tests to reduce data preparation time by **85%** and increasing hardware validation throughput by **70%**
- Refactored over **10+** **TCL** scripts to provide enhanced test metrics and increase test coverage by **20%**

Rimble

June 2022 – Aug. 2022

Software Engineer Intern

San Francisco, CA

- Led end-to-end development of **8** REST APIs on **AWS** using **Python**. Architected serverless infrastructure using **Lambda, DynamoDB, S3, and API Gateway**, achieving **99.9%** uptime and **40%** increase in user retention
- Engineered scalable ML data pipeline processing over **10GB+** daily training data for predictive AI models
- Optimized real-time APIs with WebSocket architecture by reducing latency by **20%** for data processing on Google Cloud

Projects

Image Blending System | Python, OpenCV, NumPy

Sept. 2024 – Oct. 2024

- Engineered frequency-domain image processing pipeline implementing Fast Fourier Transform (FFT) and custom convolution algorithms to generate hybrid images with **95%** visual accuracy at varying distances
- Developed multi-scale image fusion system using Gaussian and Laplacian pyramids for seamless image blending

PintOS Operating System Development | C, x86, GDB

Jan. 2024 – May 2024

- Developed fully-functional Unix-like kernel implementing core subsystems: user-level threading, virtual memory management, file system abstraction, and system calls
- Engineered preemptive thread scheduler with priority donation to prevent priority inversion

AI Volume Controller | Python, OpenCV, Machine Learning

Oct 2023 – Dec 2023

- Engineered real-time gesture recognition system integrating OpenAI's Whisper ASR for voice activation and MediaPipe for hand landmark detection, achieving **98%** gesture recognition accuracy with 30ms latency
- Developed custom audio control interface using PyAudio, mapping gesture coordinates to logarithmic volume scale

Technical Skills

Languages: Python, Java, C/C++, Rust, HTML/CSS, JavaScript, SQL, C#, MATLAB, Verilog, RISC-V, x86, TCL

Developer Tools: Git, Perforce, Amazon Web Services, Google Cloud Platform, Docker, Postman

Technologies/Frameworks: Linux, Angular, Qt, PyTorch, GitHub, VLSI Design

Leadership / Extracurricular

MetroBot Research Group

Aug. 2021 – Jan. 2022

Software Engineer

- Developed computer vision models to predict human behavior using **ROS, C++, Python**
- Designed object merger to create a unified model of an environment