

ASHVIN VERMA

ashvin.verma@berkeley.edu — (206) 502-7694 — linkedin.com/in/ashvin-verma

EDUCATION

University of California, Berkeley, CA

BSc Electrical Engineering & Computer Sciences, Minor: Physics

Cal Alumni Association TLA Scholarship '22-'23

Aug 2022—May 2025

GPA: 3.60 — Major GPA 3.71

Credit standing: Junior

SKILLS

Relevant Coursework: Computer Architecture, Microelectronic Devices, Digital Design, PCB Engg., Data Structures & Algorithms, Linear Algebra, Discrete Math, Physics: Mechanics | E&M | Quantum Mechanics

Programming: C, C++, Assembly (RV32), RTL & Verification (Verilog), ML (PyTorch, TF)

Hardware & CAD: PCB mixed-signal circuit design (KiCAD), SPICE (Cadence), digital signal processing (DSP), Amateur Radio (Technician license), Autodesk Inventor + Fusion 360 (integration)

EXPERIENCE

Teaching Employment

EECS16B course staff

Berkeley, CA

January 2024 — PRESENT

- Facilitated labs for 200+ students: debugging circuits, car control systems, PCA voice-recognition on microcontroller; demonstrating usage of electronic lab equipment
- Helped increase signals lab content by 30% while making lab 20% shorter and increasing consistency

Space Technologies @ Cal

Avionics Team

Berkeley, CA

September 2023 - PRESENT

- Re-designed PCB to control servo-connected injectors, worked with the mechanical integration team to ensure sufficient torque, ensured power compliance (on-board power + launch phase rocket power)
- Worked on heating control microcontroller system to maintain bio-experiment survival temperature range

New Delhi Space Society

President

Delhi, India

September 2019 — PRESENT

- Hosted India's only independent space hackathon, SpaceHack@ESYA, with 500+ participants. Also hosted India's largest high-school space technology competition SpaceTech@Exun over 5 years
- Led chapter to 'Best New Chapter', 'Honourable Mention' awards, half-page print coverage in largest national daily with 30 million readers. Available: Online Mirror.

Berkeley Imaging Systems Laboratory

Undergraduate Researcher

Berkeley, CA

August 2022 — July 2023

- Characterized magnetic impulse response for varied iron-oxide nanoparticle mixtures in the lab to optimize for improved spatial resolution
- Worked on PCB functionality for power and signal-processing electronic boards

[Paper] Localised FM Digital Audio Broadcasting using WiFi Mesh Networks

Lead Author | Available: IEEE Xplore

Delhi, India

January 2019 - September 2021

- Optimized novel distributed FM transmission method with 20-node WiFi meshnet for uneven terrain to maintain WiFi & FM signal (PSNR < 60, bitrate > 10 mbits/s) over 1.2 km², reducing equipment costs by 42%; quantitative & qualitative signal analysis; presented at IEEE ICECCT 2021 conference

PROJECTS

BigBrain: low-cost hobbyist EEG through configurable PCB

Project Link: HOPE F22 Showcase

Berkeley, CA

December 2022

- Designed and assembled PCB layout with filters and amplifiers (cost ;50 USD) to process signals from 6 electrodes and feed to ESP32. Implemented Julia interface to receive signals and plot spectrogram output

Athena: Grecko-Roman statue colorization & restoration using 3D autoencoders

FPGA Blinker

Delhi, India

Berkeley, CA

- Implemented clock divider, made LEDs blink with modes specified by switches.