

DHRUV GUPTA

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Education

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Exp. Grad. 2030

B.S. Computer Engineering, The Robert Mehrabian College of Engineering

MOUNTAIN HOUSE HIGH SCHOOL

May 2026

High School Diploma, GPA 4.39, Class Rank 10/614

- Honors: NSDA Academic All-American; Berkeley and ASU Speech Finalist; MountainHacks, AeroHacks, BISV Hacks, EastBay Hacks 1st Place; Stang Hacks, VikingHacks, LG Hacks 2nd Place; STEMist Hacks III 3rd Place.
- Relevant Coursework: AP Physics C Mechanics, AP Chemistry, AP Calculus AB/BC, PLTW Introduction to Engineering Design, Principles of Engineering, Computer Integrated Manufacturing, Engineering Design and Development.

Projects

CONJR: WIZARDHACKS

Jun. 2026

Best Use of You.com Sponsor Prize Winner

San Francisco, CA

- Built CONJR in 7 hours: audio-to-3D tool that turns spoken part requests into printable Meshy AI models previewed in a Three.js viewer.
- Added OpenSCAD mode where Llama-3.3-70B writes parametric CAD after You.com/Tavily pulls reference designs, dimensions, and specs.
- Built Orange Pi 5 Pro kiosk with soldered controls and networked Neptune 4 Pro connection for live voice-to-print demo.

CHEHRA

2025 - 2026

Electrical Engineer

Mountain House, CA

- Built attendance system where Python ran facial recognition, React Native displayed check-in screens, and Supabase stored users and attendance logs.
- Designed Fusion360 enclosure around Orange Pi, custom PCB, and camera/display mounts, reaching 96% accuracy across 250+ check-ins.
- Piloted in 2 classrooms and prepared district funding proposal using check-in data, enclosure fit tests, and reliability logs.

ROSETTA MD: CRUZHACKS 2026

Jan. 2026

Best Hardware Hack Winner

UC Santa Cruz, CA

- Built Rosetta MD in 36 hours: ESP32 device sends clinical speech to FastAPI jargon-stripping pipeline and React app returns plain-language summaries.
- Modeled handheld enclosure in Fusion360 with mounts for MEMS microphone, OLED display, buzzer, LiPo battery, and PCB.
- Programmed ESP32 C++ firmware and soldered audio, display, and power wiring; won Best Hardware Hack as senior in 225+ statewide field.

IOT PILL DISPENSER: CRUZHACKS 2025

Jan. 2025

Best Hardware Hack Winner

UC Santa Cruz, CA

- Built elderly-care pill dispenser in 36 hours using Python facial recognition to match patients with medication type and dosage.
- Modeled Fusion360 chassis around pill channel, stepper mount, TFT LCD, electronics bay, and service access.
- Programmed ESP32 C++ stepper control and TFT LCD interface; soldered PCB connections and won Best Hardware Hack as junior in 225+ statewide field.

ARGUS: AEROHACKS

Jan. 2026

1st Place Winner

- Built RFID tournament assistant for competitor check-ins, speech timing, case files, and judge notes; won 1st place at AeroHacks.
- Programmed ESP32/RFID and Arduino interfaces for fast physical check-ins, with Python services syncing attendance and round records to Supabase.
- Split time-critical device actions from cloud records so check-ins and timing stayed responsive while case files and judge notes remained accessible.

INTELLEWASTE

2024 - 2025

Mechanical Engineer

Central Valley, CA

- Built smart waste-bin prototype with ESP32, infrared, weight, and moisture sensors to track fill levels and optimize collection routes.
- Placed 1st out of 10 finalists at Central Valley Business Expo, winning \$2.5k in funding and 1 year of mentorship.
- Presented prototype to 10+ municipalities and consulting firms for pilot feedback.

Experience

VEX ROBOTICS

2022 - 2026

Team Captain (Gr. 11-12), Club Treasurer (Gr. 11-12)

Mountain House, CA

- Led mechanical design in Fusion 360, translating match strategy into complete robot assemblies and guiding the program to its 3rd State qualification in school history.
- Iterated drivetrain gearing, structural bracing, center-of-gravity placement, and mechanism packaging to balance speed, torque, stability, and rapid pit repairs; mentored members on CAD and build tolerances.
- Directed a 3-day STEM camp for 100+ students that generated \$30k, teaching robotics, CAD, coding, and circuitry while supporting six competition teams.

CENTRAL VALLEY PRINTING COMPANY

2023 - 2026

Co-Founder

Mountain House, CA

- Co-founded 3D printing studio generating \$3k+ for 30+ clients needing prototypes, fixtures, and replacement parts.
- Modeled customer parts in Fusion360 and ran Neptune 4 Plus, Neptune 4 Pro, and Bambu P1S printers across PLA/PETG jobs.
- Delivered 200+ part local youth government order with batching, slicer profiles, and fit/finish checks.

Additional Information

Skills: Arduino, ESP32, Raspberry Pi, KiCad, PCB Design/Soldering, Fusion360 CAD, CAD/CAM, 3D Printing, Slicer Prep, CuraEngine, OpenSCAD, Python, C++, FastAPI, Flask, TensorFlow, React Native, Three.js, Supabase, Git, LLM Prompting

Interests: Collecting Keychains, Cardistry, Horse Riding, Reading Philosophy, Yo-Yoing, D&D, Volleyball, Hackathons