

SHAMAK GOWDA

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EDUCATION

University of California, Berkeley

Expected Graduation: Spring 2028

Regents' and Chancellor's Scholar (Faculty Committee): Most prestigious, merit-based award offered to the top 200/150,000 applicants
Electrical Engineering and Computer Science Major

WORK EXPERIENCE

FoodWare Inc.—*Frontend software developer intern*

Remote (Sept 2024 – Mar 2025)

- Interned for over 6 months at **Berkeley Skydeck**-accelerated startup to phase out single-use takeout boxes
- Developed sustainability platform via React, Tailwind for direct-to-consumer use to receive real-time reuse metrics to maximize platform efficiency. Periodically handled AWS and backend API request management, and iOS app-level Stripe payment integration

PUBLICATIONS

Machine learning predictions of additively manufactured alloy crack susceptibilities (doi.org/10.59720/24-057):

- Lead author in team of three researchers, applied Physics-Informed ML and Random Forest algorithms to predict crack susceptibility in high temperature–pressure aerospace alloys for applications in additive manufacturing. Developed a novel prediction pipeline that performed with a higher precision than past research and revealed a strong correlation between physical attributes and SCS.

RELEVANT EXPERIENCE

Berkeley Artificial Intelligence Research (BAIR) Laboratory: Berkeley Speech Group (under Akshaj Gupta)

Oct 2025 – Present

- *Music AI:* Working on systems to translate guitar audio into expressive, beginner-friendly tablature representations; performing auxiliary tasks to consolidate data and streamline tuning; exploring deep learning models for temporal and pitch-aware transcription

Berkeley Nanotechnology Laboratory (under Dr. Waqas Khalid)

Sept 2025 – Present

- Conducting electron beam lithography research using carbon nanotubes to democratize nanofabrication. Reviewing/editing schematic and testing PCB modules piece-by-piece to debug functionality of beam switch mechanism and calibrate alignment.

MIT Lincoln Laboratory: Beaverworks Summer Institute

Jul 2024 – August 2024

- Led a team to design and deploy an [AUV](#) for operation in high-pressure underwater environments
- Programmed control and perception systems using ROS 2 (Python and C++), implemented heading and depth PID controllers for sensor-based feedback, and trained a YOLOv8 model with 90% accuracy to detect and track other AUVs in real time.

CalSol Electrical Subteam (Sensors Project)

Sept 2025 – Present

- Developing custom PCBs with IMU and GPS modules for Berkeley's solar vehicle team. Focusing on sensor fusion, signal stability through protocols like CAN and UART, and robust real-time data acquisition; gained experience with board bring up and firmware

Robotics (*First Tech Challenge*)

Sept 2022 – May 2025

- Software Lead; led software team to multiple tournament wins and regional qualifications.

PROJECTS

Vidris College Counseling: *Co-founder and Software Lead:* <https://vidris.vercel.app/>

- Developed full-stack prototype for scalable college counseling platform
- **Supabase, NextAuth, Brevo,** Kofi webhook integration

Senior Project: Using Drones and Image Recognition to Assess Forest Areas Prone to Wildfires (under Ignas Bolsakovas, CEO of Foodware)

- Built an end-to-end wildfire risk prediction system combining satellite imagery, drone data, and LSTM models to forecast fire likelihood (achieved 89% accuracy). Designed scalable data preprocessing & visualization pipelines for long-term monitoring

Seed-dropping Drone with [Beyond Terra](#) (high school 501(c)(3) non profit dedicated to increasing biodiversity)

- Built mechanism to drop seedballs (mixture of clay and potting mix surrounding seeds)
- Researched optimal seedball mixture composition, worked with DJI Drones

AI Special Ops Team (*Schoolhouse.world*)

- Learned to integrate and tune Google Gemini for multi-turn conversations, prompt engineering

Berkeley Model United Nations: Working to execute one of nation's largest high school Model UN conferences

- Technology Team: Help manage teacher and student-friendly website for thousands of use

AWARDS AND ACTIVISM

Citizens Climate Lobby Youth Action Team Co-lead (*300+ members*)

2022-2025

- Spearheaded several national initiatives, including three-year school electrification challenge in 18+ states and climate canvassing (reached 13000+). Spoke with members of Congress, State Senators for target climate legislation

Ralph Kuiper Global Citizenship Award

2025

- Awarded by the Commonwealth World Affairs Club

SKILLS

- **Languages/Frameworks:** Python, Java, ROS, HTML/CS/JS (React, Next.js), Supabase, Brevo, NextAuth, Flask, Berkeley CS61A
- **Technical/Softwares:** KiCAD, AutoCAD, Supervised Learning (Tensorflow), NumPy, Pandas, scikit-learn, YOLO, OpenCV, Data Preprocessing/Scraping, Image Processing(FIJI/Image J), Time-Series Modeling (LSTM), Joomla, Docker (novice), C++ (novice)
- **Other:** Crocheting, Working Spanish fluency, Soldering