ABHAY SHUKLA

01shuklabhay@gmail.com | https://www.linkedin.com/in/shuklabhay/ | https://github.com/shuklabhay | https://shuklabhay.github.io

EXPERIENCE

Stanford Biomedical Informatics Research Center — Nov 2024 – Present
Gevaert Lab Student Researcher — *San Jose, CA*

· Developed computer vision models (CNNs, ViTs) to generate synthetic medical images indistinguishable to clinicians (0.5 AUC).
· Designed scalable high-throughput Python data pipeline, allowing for distributed training on 1.5TB of biomedical imagery.

UCLA COSMOS (Neurobiology + AI Cohort) — Jul 2024 – Aug 2024
Student Researcher — *San Jose, CA*

· Investigated neurobiology & ML parallels; simulated rodent navigational behaviors using MLPs written in low-level libraries (NumPy).
· Developed UCLA campus image geolocation models, organizing campus-wide video data collection efforts fine tuning AlexNet.

FRC Team 604: Quixilver Robotics — Jun 2022 – Present
Controls Lead, Software Maintainer — *San Jose, CA*

· Implemented real-time localization and piece detection computer vision systems for three large-scale, 125lb competition robots, securing 24 awards+event wins.
· Developed competition data collection web appliaction allowing 250+ users to collect competition data from 2000+ competition matches.

Bay Area STEM Academy — Jan 2023 – Present
Organization Co-President — *San Jose, CA*

· Created STEM curriculum, organized STEM activities, and broadcast TV lectures serving 171K homes in 15 cities. Raised $6K+ for local robotics teams.
· Coordinated 25+ mentors to sustain and expand local STEM initiatives; forged volunteering partnerships with San Jose Unified School District and SanDisk.

Independent Musical Aliases — Jun 2020 – Present
Digital Audio Producer — *San Jose, CA*

· Produced 65 full-length original musical works over six years, using automated social media workflows to generate 200,000+ streams across all major platforms.

NEXUS Research Club — Aug 2024 – Present
Co-founder & Chapter Manager — *San Jose, CA*

· Organized research webinars, symposiums, and conferences; connected 30 students from 8 California high schools with research mentors from MIT, Stanford, Brown & UCLA.

PROJECTS

Voquel - *Demo Page* — Jan 2025 – Aug 2025

· Developed AI pipeline for translating music while preserving singing style & emotional nuance.
· Attracted 1M+ organic views on translated videos using LLM-powered workflows.

PercGAN - *GitHub Repo* — Sep 2024 – Mar 2025

· Developed GANs for high-fidelity stereo drum sound sample generation, improving audio quality 85% and reducing training time 25× vs WaveGAN/MelGAN.

EDUCATION

Leland High School — *4.00 UW A-G*
Junior (Expected Graduation 2026) — *San Jose, CA*

SKILLS

Technical   Python, PyTorch, Computer Vision, Generative Audio Models, Distributed Training Pipelines
Other   Growth Experimentation, Product Analytics, Community Leadership, Content Strategy

HONORS & AWARDS

- 2025 Santa Clara Synopsys Science & Engineering Fair: Honorable Mention (Top 10%, 1000+ Participants) — Apr 2025
- West Coast Products: Robot Design Challenge Finalist (Top 1%, 1000+ participants) — Nov 2024
- FIRST World Championship (with FRC604): Milstein Division Winner (5/3500 Internationally) — Apr 2024