

DANIEL KOSUKHIN

Engineer & Researcher

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SKILLS

Languages

- Python, Java, C++, Swift
- JavaScript, TypeScript

Frameworks

- React, Next.js, React Native
- FastAPI, ROS2, PyTorch
- MLX Swift, WPILib

Tools

- Git, Docker, Linux
- Vercel, Supabase, Clerk
- VAPI, ElevenLabs, Gemini

Domains

- Computer vision & perception
- Autonomous systems & planning
- On-device machine learning
- Full-stack web & iOS

Hardware

- CAD, CNC, 3D printing
- Arduino, embedded systems

EDUCATION

Great Neck South HS

Junior · Expected Jun. 2027

GPA: 95.1

Relevant Coursework

- Engineering Summer Academy at Penn (UPenn, 2025)
- Tonge Lab nickel protein research, Stony Brook
- AP Computer Science A · AP Physics 1
- Robotics, Intro to CAD
- Intro to Mechanical Engineering

AWARDS & HONORS

- Engineering Innovation Award — FRC World Championship, Houston
- Third Place — NYSSEF (CINE)
- U.S. Air Force Special Award — NYSSEF
- picoCTF participant

INTERESTS

- Aerial robotics & autonomy
- Vision-language models
- Trajectory generation
- Philosophy & literature
- Guitar

SUMMARY

High school junior building independent AI products and contributing to academic robotics research. Ship full-stack systems across iOS, web, and embedded hardware, with a focus on autonomous agents, vision-language models, and on-device machine learning. Lead multidisciplinary teams through the full lifecycle of technical projects.

PROFESSIONAL EXPERIENCE

Principal Investigator — CINE · Aug. 2025 – Present

Cinematic Intelligent Navigation Engine — autonomous drone cinematography.

- Designed an autonomous drone cinematography system, integrating CineMPC and EGO-Planner to generate B-spline trajectories optimized for cinematic framing and obstacle avoidance.
- Developed cost functions for shot composition and glare reduction; trained perception models on Ultralytics' HomeObjects-3K.
- Built a ROS2 and RViz simulation environment for hardware-in-the-loop validation; presented at NYSSEF, earning Third Place and the U.S. Air Force Special Award.

Founder & Engineer — Stedo · 2025 – Present

AI operations platform for drone roof inspection businesses.

- Built end-to-end on FastAPI, React 19, Supabase, VAPI, Gemini 2.0 Flash, and ElevenLabs; shipped the operator dashboard, AI calling, billing, and landing page.
- Designed an AI phone line that answers inbound calls, qualifies leads, and books inspections; building satellite imagery quoting and FAA LAANC compliance automation.
- Competing in the Build with Gemini XPRIZE hackathon; defined a vertical go-to-market strategy targeting roof inspection before expanding to adjacent drone services.

Founder & Engineer — Lumen · 2025 – Present

Privacy-first iOS browser with on-device AI.

- Built on WebKit with local SQLite and FTS5 full-text search; integrated Llama 3.2 via MLX Swift for fully on-device inference.
- Shipped a Knowledge Panel with Ask and Library tabs, semantic chunking, and passive reading capture.
- Launched on the App Store under the Lux Softworks organization.

Research Collaborator — RobotiXX Lab, GMU · 2025 – Present

- Collaborating with PhD researcher Beichen Wang on vision-language models for robotics.
- Investigating Depth Anything paired with VLM annotation as a cheaper substitute for LiDAR for generating synthetic robotics datasets.

Lead Programmer — Rebel Robotics, FRC Team 2638 · Sep. 2024 – Present

- Implemented autonomous path planning using Java and WPILib; built Bezier-based autonomous alignment routines.
- Designed control logic for a variable-angle shooter prototype.
- Mentor new programmers in WPILib, Java, and subsystem integration.

Lead Developer — GNS Web Development Club · Sep. 2025 – Present

- Lead a team building production websites for local businesses and school clubs in React, Next.js, and Vercel.
- Collaborate with designers and project managers from concept through deployment.

Vice President — GNS Programming Club · Jan. 2025 – Present

- Run app development lectures and language workshops for new members.
- Spearheaded a club-wide mobile initiative in React Native, Expo, and TypeScript.

VOLUNTEERING

Sound Chief & Designer — Theater South · Sep. 2024 – Present

- Live sound design and QLab cue execution; manage microphones, transmitters, receivers, and theater electrical work.

Student Mentor — FIRST Lego League, Team 2638 · Oct. 2024 – Jan. 2025

- Introduced STEAM to elementary school students and mentored in competitions.