

DANIEL KOSUKHIN

Engineer & Researcher

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EDUCATION

Great Neck South High School

Great Neck, NY · Expected Jun. 2027

GPA: 95.2/100 unweighted

Senior Courses

- AP Calculus BC · AP Physics C
- Advanced Math Topics (proofs, linear algebra)
- Senior Research Seminar H
- Game Development H

Completed

- AP Computer Science A · AP Physics 1
- Robotics · Science Research H
- Engineering Summer Academy at Penn, 2025: EAS 0024, grade A, Penn credit

AWARDS & HONORS

- AIAA SciTech 2027: sole-authored abstract accepted
- NYSSEF 2026: 3rd Place, Robotics & Intelligent Machines; U.S. Air Force Special Award
- John Locke Global Essay Prize: High Commendation, Philosophy (100,227 entrants)
- FIRST Championship 2024: Engineering Inspiration Award (team)
- AP Scholar with Distinction

SKILLS

Languages

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

Robotics & ML

- ROS2, MuJoCo, PyTorch, WPILib
- TensorFlow Lite, MLX Swift, ArduPilot

Software

- React, Next.js, React Native, FastAPI
- Git, Docker, Linux

Hardware

- Drone assembly, soldering, Arduino
- CAD, CNC, 3D printing

INTERESTS

- Aerial robotics & autonomy
- Humanoid locomotion
- Philosophy & literature
- Boulderling · Guitar

RESEARCH

Sole Researcher — CINE · Aug. 2025 – Present

Autonomous drone cinematography through the school Science Research Program.

- Presenting CINE at AIAA SciTech 2027 (~6,000 attendees, 46 countries) after reviewers accepted the extended abstract; writing the full paper as sole author.
- Build a drone to film indoors autonomously, with or without a subject, on one camera and a Raspberry Pi 5; prior systems need LiDAR, GPS tags, or motion capture.
- Added framing, depth, and glare costs to EGO-Planner; in simulation, CINE holds its target distance 3x as often as the planner alone and cuts peak depth deviation 57%.
- Run object detection and framing live on the drone's Coral TPU; cut simulated position drift from 0.25 m to 0.05 m with a small trained network.

Student Researcher — RobotiXX Lab, GMU · 2025 – Present

CLEAR: scene-aware motion retargeting; advised by PhD researcher Beichen Wang.

- Designed and built the lab's retargeter from scratch, a new algorithm and codebase to map human motion onto a Unitree G1 humanoid in cluttered scenes.
- Combined inverse kinematics, Laplacian deformation, and an augmented Lagrangian solver to plan whole windows of motion; the G1 shifts early to duck and crawl under obstacles.
- Reached 75% collision-free motion across 1,185 recordings vs. 31–44% for earlier methods; the retargeted motion has run on a physical humanoid.
- Wrote the MuJoCo evaluation pipeline for clearance, penetration, tracking error, and smoothness; third author on the ICRA 2027 submission.

SOFTWARE

Lumen — Founder & Sole Developer, Lux Softworks · 2025 – Present

iPhone browser whose AI runs entirely on the phone.

- Created Lumen in Swift to run Llama 3.2 1B on the phone with no server; it summarizes a page in about 1 second and answers questions about past reading.
- Launched on the App Store in April 2026 as open source; 480+ downloads.

Stedo — Co-Founder, CEO & Sole Developer · 2025 – 2026

- Coded Stedo in FastAPI, React, and Supabase to run drone service companies: an AI phone receptionist, scheduling, customer texts, and pricing from satellite photos.
- Pivoted the team from Zova, an AI calling service, after finding the HVAC market crowded; shut Stedo down when customer interviews showed too little demand.

LEADERSHIP

FRC Team 2638 — Programming Co-Leader, Apps Lead · Sep. 2023 – Present

- Led 2026 scouting and analytics for 30 scouts across 270+ matches at 3 events, including the FIRST Championship.
- Wrote camera alignment and reworked 49 of 59 autonomous paths in Java (2025); coded the offseason turret and the 2026 robot's first autonomous system.
- Trained 20+ programmers over three seasons; coached a FIRST LEGO League team.

Web Development Club — President & Lead Developer · Sep. 2024 – Present

- Recruited and lead 40+ members who have built 24 free sites for nonprofits, churches, businesses, and school clubs; coded 11 of them.
- Teach Figma and React, pair each member with a client, and review every site; set up the GitHub organization, hosting, and officer roles the club will run on after 2027.

Programming Club, part of Hack Club — President · 2025 – Present

- Replaced lectures with projects and contests for 20+ members; building a schedule, lunch, and campus map app for 1,000+ students, launching soon.

ARTS & SERVICE

Sound Chief, Great Neck South Stage Crew · Sep. 2024 – Jun. 2026

- Mixed live sound for 9 shows with audiences up to 1,000; led a two-person team.