

Alex Davison

Pittsburgh, PA, (919) 819-7153, alex@alexdavison.com, [LinkedIn](#), alexdavison.com

Software developer with a strong background in mathematics.

EDUCATION

Stony Brook University

- **Bachelor of Science in Mathematics**, Minor in Computer Science
- **Courses:** Computer Proofs, Algorithms, Cryptography (Graduate), Number Theory

Stony Brook, New York

Expected May 2027

SKILLS

- **Programming:** Python, TypeScript, C++
- **Tools:** Git, GitHub, Linux, Bash, numpy, matplotlib, $\text{\LaTeX}$
- **Math:** analysis, formal verification, algorithm design
- **Core Competencies:** project strategy, problem-solving, collaboration
- **Languages:** English (native), Mandarin (fluent), Russian (beginner)

EXPERIENCE

Gecko Robotics

Summer 2026

Software Intern

- Solo-built the logbook capabilities on Gecko's Cantilever software platform for power plants, encompassing all logging modes including daily operator rounds, offloading reports, and work orders.
- Integrated logbook contextual information into Cantilever's agentic document search and LLM pipeline.
- Interviewed control room operators on-site at multiple plants, translating operator feedback into logbook's features.
- Ingested logbook histories of several plants into Cantilever.
- Rolled out to 150+ plants in the US, comprising 5% of the North American power grid.

Reprogramming

Software Developer (Contracted)

2024

- Designed and developed a JavaScript web application for Thales Academy (a network of 13 Pre-K-12 schools) to automate creation of math worksheets for elementary students.
- Ensured alignment with curricula by designing features that allow teachers to tailor worksheet creation parameters.

DataAnnotation

Freelance Software Developer

2023-25

- Worked on a variety of script and codebase revisions across multiple languages (Python, Java, JavaScript, C, C++).
- Provided thorough code reviews, troubleshooting approaches, and detailed explanations of revisions implemented.

Math Tutoring

Math Tutor

2023-now

- Tutored students weekly on subjects ranging from elementary level math to calculus 4.
- Private tutoring (2023-2024), Mathnasium tutoring (2024-2025), SBU ASTC tutoring (2025-now)

PROJECTS

EOcross Solver

2022

- Invented an algorithm for Rubik's cube EOcross solving that balances computer optimization with human intuition.
- Algorithm was adopted by the CrystalCube project (crystalcuber.com), used for training by several top speedsolvers.

ChessDB Mobile

2023

- Developed a mobile-friendly JavaScript web application for exploring chess openings, integrated with real-time statistics and evaluation data using APIs from chessdb.cn and lichess.org.
- Project serves as the original codebase that the ChessPath project (chesspath.pro) was built on, with hundreds of users.

STUDENT ENGAGEMENT

HackNYU 2025

2025

- Put together and led a four-person team. Guided brainstorming and project planning sessions.
- Developed front-end user profile UI, and back-end database support in Python with SQLite.
- Coordinated the merging of all contributors' work in Git/GitHub and produced the finalized project.

USA Computing Olympiad

2017

Competitive Chess - 1st place US Junior Chess Congress 2020, Stony Brook vs. Yale Invitationals 2024

2016-24