ALEX LEVY

(301) 651 - 0628 • ajlevy246@vt.edu • https://alexlevy.me • Olney, MD

EDUCATION

Virginia Tech– Blacksburg, VA   **May 2026**
B.S. – Computer Science, Applied Discrete Mathematics   **3.97 GPA**
- Relevant Coursework: Graph Theory, Combinatorics, Machine Learning, Programming Languages, Computer Sys.

Montgomery College– Rockville, MD   **May 2023**
A.S. – Mathematics
- Dual Enrollment Degree - earned 95 college credits while in high school
- Relevant Coursework: Linear Algebra, C++ Programming, Multivariable Calculus, Intro Discrete Math

SKILLS

- Programming Languages: Python, C, Java, HTML/CSS
- Tools & Frameworks: Git, Numpy/Sympy, Jupyter, Linux/WSL, Next.js, React, TailwindCSS
- Algorithms: Parser Design (Earley, Pratt), Graph-Theoretic (Dijkstra, Bellman-Ford, Prim)
- Mathematics: Graph Theory, Abstract Algebra, Probability, Extremal Combinatorics, Polya Theory

RELEVANT EXPERIENCE

Teaching Assistant – Virginia Tech, Blacksburg, VA   **August 2025 - Present**
- Grade assignments and provide detailed feedback to help improve students understanding and programming skills.
- Hold regular office hours to provide one-on-one support for students struggling with intermediate Python concepts.
- Coordinate with course instructors to develop supplementary course materials and practice problems.

Undergraduate Researcher – Virginia Tech, Blacksburg, VA   **August 2025 - Present**
- Conduct research on symmetric functions under the supervision of Postdoc Milo Bechtloff-Wising.
- Collaborate with a team of 3 undergraduate researchers to investigate problems in algebraic combinatorics.

PROJECTS EXPERIENCE

Portfolio Site – Personal Project   **July 2025 - Present**
- Built and deployed a responsive personal site using Next.js and TailwindCSS to showcase programming projects.
- Integrated Framer Motion animations with interactive project modals and API-driven content.

LevyCAS – Personal Project   **May 2025 - August 2025**
- Engineered a multivariate computer algebra system written in pure Python, equipped with a Pratt parser for converting natural language expressions into Python objects.
- Implemented automatic simplification, polynomial greatest common divisors, symbolic integration and differentiation, various numeric operations, and more.
- Developed a public API and deployed an interactive demo using Gradio and Hugging Face Spaces.

Eagle Scout Project - Troop 457, Rockville, MD   **June 2023 - August 2023**
- Designed, planned, and led the construction of six 42 sq. ft. garden beds to improve a local community park.
- Directed 20+ volunteers over three months, coordinating schedules and delegating tasks for efficiency.
- Managed logistics and materials procurement by collaborating with park rangers and county officials.

AWARDS AND HONORS

- T.W. Hatcher Scholarship, *Virginia Tech* - 2025
- Ray A. Gaskins Scholarship, *Virginia Tech* – 2024/2025
- Richard & Georgia Kimball Scholarship, *Virginia Tech* - 2024
- Clifford Beck Award in Physics, *Montgomery College* - 2023
- Eagle Scout, *Troop 457 Rockville, MD* - 2023