Caleb Geiger

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: https://calebgeiger.org/
: Hinesville, GA (Open to relocation)

Technical Skills

- **Fluent in:** Python, Git
- **Prior projects using:** C++, Sage, Javascript, HTML, CSS, C#

Select Personal Projects

- **WordlBattl**: Inspired by the popularity of the Wordle game, I created a version where you can play against an AI opponent. I also created an accompanying *WordlHelpr* that you can use to get ideas for words to try out if you are stuck in your Wordle game. See https://elodinlaarz.github.io/wordlBattl.html, and play for yourself!
- **HanabiAI**: A project that used genetic learning algorithms to teach an AI to play the card game Hanabi. As a consequence, it also included a text-based implementation of the game of Hanabi to play with the AI. See https://github.com/ElodinLaarz/HanabiAI.
- **Crypto**: A simple project where I implement Diffie-Hellman Key Exchange in the case of elliptic curves and then attempt to break the encryption using Pollard's Rho algorithm. See https://github.com/ElodinLaarz/CryptoPractice.
- **APLUnity**: A simple, single, two-dimensional level coded in C# using Unity. See https://github.com/ElodinLaarz/APLUnity/

Experience

- **University of Washington** — Seattle, WA
  Researcher in Computational Number Theory — *Sep. 2015 — Jun. 2020*
  - **Overview**: Thesis research centered around the ideal class group of imaginary quadratic orders by counting the number of ideals prime powered norm in the case of non-maximal orders.
  - **Technical skills used**: Heavily used Sage and Python when working with these non-maximal orders.
  - **Link to thesis**: https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/45518/Geiger_washington_0250O_21118.pdf
- **Coding Enthusiast** — Online
  Participant — *2019-Present*
  - **Overview**: Google Code Jam (2019 - 2021), qualifying in 2020 and 2021; Google Hash Code (2020 and 2021), placing 1,908th out of 10,724 participants and 2,615th out of 9004 participants, respectively, and I have already signed up for Google Hash code 2022, as well; and finally, foobar.withgoogle (currently Level 4 out of 5).
- **Mathematics Instructor** — Savannah Technical College
  Instructor — *August 2021-Present*
  - **Overview**: Instruct and facilitate meaningful learning of the course outcomes in the curriculum and proactively support all facets of the learning environment.
- **Graduate Student Instructor** — University of Washington
  Mathematics Instructor — *2015-2020*
  - **Overview**: Taught mathematics courses from Precalculus to Differential Equations and Linear Algebra.

Education

- **University of Washington, Seattle** — Seattle, WA
  M.S. in Mathematics specializing in Algebraic Number Theory — *Sep. 2015 — Jun. 2020*
- **University of California, Irvine** — Irvine, CA
  Bachelors in Mathematics — *Sep. 2013 — Jun. 2015*