

# Gabriel Thompson

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## RELEVANT SKILLS

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*Programming Languages:* Python, Java, JS, HTML, CSS, Processing, Markdown, L<sup>A</sup>T<sub>E</sub>X, Sonic Pi

*Other Tools/Frameworks:* Git/GitHub, SQL, Flask, Jinja, NumPy, p5.js, Bootstrap, Foundation, BeautifulSoup, MongoDB

## EDUCATION

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2023 - now **University of Toronto**

Bachelor of Science, Computer Science

*Relevant Coursework:* Foundations of Computer Science, Calculus with Proofs

2019 - 2023 **Stuyvesant High School**

*Relevant Coursework:* Software Development, Computer Graphics, APCS, AP Calculus BC

## EXPERIENCE

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**Research Intern — CUNY Graduate Center**

May 2023 - Sep 2023

- Worked on [Wikipron](#), a Python and requests-based library for scraping pronunciation data from Wiktionary in 250+ languages. Worked under Prof. Kyle Gorman.
- Proposed and implemented Python [feature](#) using ISO 639 codes allowing >10 new languages' phonologies to be parsed
- Wrote >5 [technical write-ups](#) diagnosing causes of bugs and suggesting solutions.

**SWE Mentee — Google Mentorship Program**

Feb 2023 - Jun 2023

- Led team to create DAFTER-GPT, a JS-based Chrome extension and Python-based tool for training an LLM using the OpenAI API to write emails in my writing style, given a corpus of my past emails. Advised by Google Software Engineer.
- Created Python data pipeline to fine-tune GPT-3 model on a corpus of 500+ emails and generate new emails given new prompts. Model trained via the OpenAI API. [Link to project source code](#)
- Presented final project to 10+ Google NYC employees. Received positive feedback on project from program director.

**IT Director — Stuyvesant Writing Center**

May 2022 - Jun 2023

- Built and deployed full-stack website to manage school's Writing Center for 3,300+ students and 50+ editors across all four grades. Website built in Python, Flask, SQL, and JS, deployed via DigitalOcean. [Link to project](#)
- Developed user authentication system for 300+ accounts, editor feedback system, and email notification system to send 2,000+ emails to 500+ email addresses. Oversaw 24/7 deployment of website for 8,000+ hours.

**Data Science Intern — Queens Public Library**

Dec 2021 - Apr 2022

- Worked on development of AskTeisha, an AI chatbot built using the Google DialogFlow API to help high school and college students find internships. Back-end written using Flask, BeautifulSoup and requests, front-end written in HTML/CSS/JS.
- Created BeautifulSoup-based feature for extracting 100+ job listings Craigslist, HireTeen, Indeed, and other websites.

## OTHER PERSONAL PROJECTS

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- [Personal Blog](#) – My personal blog. Wrote 6,500+ words about CS & math-related topics that interest me, including SHA-256 encryption, 12-tone equal temperament, and the Mandelbrot set.
- [PawPoints](#) - Web app to track the locations of nearby stray cats and when they were last fed. Won 1st place out of 54 teams at NewHacks 2023. Back-end written with Google Firebase and SvelteKit, front-end written with Tailwind.
- [Layover Calculator](#) – Web app that uses data from the Yelp and Google Maps API to generate suggestions for things to do during flight layovers. Back-end written in Python, Flask, SQL, front-end written with Bootstrap, JavaScript, and Jinja. Built for Software Development class.
- [MIDI-based Vocal Harmonizer](#) – A Python tool for autotuning vocals to multi-voice MIDI harmonies using the [PSOLA algorithm](#). Built with Librosa, NumPy and Jupyter Notebook.
- [Efficiency Gap Calculator](#) – Python and JS-based website that uses voting data to inform users on how gerrymandered their district is, using an algorithm called the "Efficiency Gap". Built with Bootstrap, jQuery, and MapBox, using CSV data from [Harvard DataVerse](#) analyzed with Python. This was my final project for a political writing class.

## HONOURS & AWARDS

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- 1st place at NewHacks 2023 (out of 54 teams). My team was awarded \$600. [Project link](#)
- 2nd place at StuyHacks 2021 (out of ~20 teams). [Project link](#)