Gabriel Thompson

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SUMMARY

First-Year Computer Science student at the University of Toronto. Full-stack web developer, passionate about data science, music theory, and linguistics. Aspiring to pursue a career in computer science.

EXPERIENCE

Research Intern — CUNY Graduate Center   May 2023 - present

– Completed mentorship under Prof. Kyle Gorman on Wikipron, a Python and requests-based library for scraping pronunciation data from Wiktionary in 250+ languages

– Proposed and implemented Python feature allowing >10 new languages' phonologies to be parsed

Mentee — Google Mentorship Program   Feb 2023 - Jun 2023

– Led team working with Google developer Jeremy Espenshade to create DAFTER-GPT: a Python, Flask, JavaScript, and GPT-3 based Python tool and Chrome extension for training a LLM to write emails in a user's writing style given a corpus of past emails, using the OpenAI API. Presented final project to Google NYC employees.

– Wrote Python engine for generating descriptions of the writing styles of 500+ personal emails using LLM via the OpenAI API, and generating new emails given new descriptions.

IT Director — Stuyvesant Writing Center   May 2022 - Jun 2023

– Single-handedly 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 in a team of 10+ high school students developing AskTeisha, an AI chatbot built using the Google DialogFlow API to help high school and college students find internships. Back-end written using Python, Flask, and requests, front-end written in HTML/CSS/JS.

– Created BeautifulSoup-based feature for extracting 100+ job listings Craigslist, HireTeen, Indeed, and other websites.

MISCELLANEOUS PERSONAL PROJECTS

– **Personal Blog** – My personal blog, where I've written 6,500+ words about CS & math-related topics that interest me

– **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.

– **Floom Web Conferencing** – Web video conferencing app built in JavaScript, Flask/Jinja, and Flask-SocketIO. Uses video analysis with NumPy and PIL to track whether a user is paying attention. Hack-a-thon project I built with my team for MIT Blueprint.

– **MIDI-based Vocal Harmonizer** – A Python tool for autotuning vocals to multi-part MIDI harmonies using the PSOLA algorithm. Built with Librosa, NumPy and Jupyter Notebook.

– **Efficiency Gap Calculator** – JavaScript-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 data from Harvard DataVerse. This was my final project for a political writing class.

EDUCATION

2023 – now	**University of Toronto**	
	First-Year, Bachelor of Arts in Computer Science	
2019 - 2023	**Stuyvesant High School**	
	Activities and societies: CS Dojo, StuyHacks, Writing Center, Math & CS Research, StuyPy, STC Band, Concert Band, Symphonic Band, All-City Marching Band, Competitive Computing Club, Linguistics Club	

RELEVANT SKILLS

Programming Languages: Python, Java, JS, HTML, CSS, Processing, Markdown, LaTeX, Sonic Pi
Other Tools/Frameworks: Git/GitHub, SQL, Flask, Jinja, NumPy, p5.js, Bootstrap, Foundation, BeautifulSoup, PIL