

THOMAS TAY

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SUMMARY

Skilled C++ and Python programmer. I made a Python bot that schedules your Instagram posts for you.

Familiar with CMake, Linux, and GNU Coreutils (Make, grep, sed). I have worked on several side projects using C++ and am well-versed in optimizing programs for speed.

Quick problem solver experienced in working with large codebases. I fixed a rendering bug on my company's Python Flask application in just one day by **dissecting** the application into small components, **analyzing** the root cause using my experience, and **evaluating** the individual components to solve the problem.

EDUCATION

UNIVERSITY OF MICHIGAN

B.S. Computer Science, Honors Mathematics

Ann Arbor, MI
September 2017 – Present

- **Junior** majoring in Computer Science and Honors Mathematics
- **Graduation Date (Expected):** May 2020
- **GPA:** 4.0/4.0 - Awarded William Branstrom prize (2017) for academic excellence
- **Course Highlights:** Data Structures & Algorithms (281), Honors Linear Algebra, Graph Theory, Statistics

WORK EXPERIENCE

UNIVERSITY OF MICHIGAN, COMPUTER AIDED ENGINEERING NETWORK

Web Team Student Developer

Ann Arbor, MI
May 2018 – Jun 2018

- Maintained the back-end of ParkIT, our web parking monitor app, using Python (Flask) and JavaScript.
- Author of the company's Python 3 tutorial, teaching OOP Python concepts for onboarding new hires.
- Wrote Python scripts for automated data processing to speed up University classroom allocation.

RAFFLES INSTITUTION HIGH SCHOOL

Teacher

Singapore
Feb 2017 – Jun 2017

- Assessed and looked after 100+ high school juniors' progress over four months.
- Provided informative presentations and ensured that all students attained full comprehension.
- Planned a lesson timetable for 4 classes, ensuring that lessons adhered to curriculum objectives.

COMPUTER SCIENCE SIDE PROJECTS

INSTAGRAM BOT [PYTHON]

(2018)

- Programmed a Python bot that schedules your Instagram posts, and automates liking and following.
- Created a full-stack web app using Python Flask and Bootstrap to allow users to schedule posts, providing a web-based drag and drop interface to easily see how posts are being scheduled.
- Used SQLite in the application backend database to keep track of user data.

POLYBAR – OPEN SOURCE CONTRIBUTOR [C++]

(2018)

- Augmented a module in Polybar, a 100% customizable status bar for the Linux OS with over 50k downloads.
- Implemented multithreading principles including mutexes, threads, and lock-guard in C++.
- Developed skills to comprehend large codebases (over 50k LOC) using vim and ctags.

THREE SIBLING MATH PROBLEM SOLVER [C++]

(2018)

- Invented an algorithm in C++ to solve the three-sibling problem for $N > 1000$, a challenging math problem.
- Gained experience using CMake to perform out-of-source builds for large projects.
- Optimized the algorithm by 200% through efficient use of hash tables in caching results.

Languages **Experienced:** C++, Python

Worked with: JavaScript, Bash, SQL, Java, vimscript

Toolbox Git, CMake, Flask, NumPy, Pandas, jQuery, SQLite, Bootstrap

For Fun Ballroom Dancing, Soldering, Arduino, Raspberry Pi