**THOMAS TAY**

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### education

## University of Michigan Ann Arbor, MI

B.S. Computer Science, B.S. Honors Mathematics *Expected: May 2020*

* **GPA:** 3.9/4.0 - Awarded William Branstrom prize (2017) for academic excellence
* **Course Highlights**: Distributed Systems, Operating Systems, Computer Security, GPU Programming,  
  Data Structures & Algorithms, Probability & Statistics, Honors Linear Algebra

**Work experience**

Microsoft Redmond, WA

*Software Engineering Intern – MS Teams May 2019 – Present*

* Backend engineer of a Slack-like single page web app using frameworks like Angular, React and Node.
* Accelerated message retrieval for users by selectively updating caches based on their geographical region.

University of Michigan – EECS 203 Discrete math Ann Arbor, MI

*Instructional Assistant Aug 2018 – May 2019*

* Exam management team lead, in charge of organizing and typesetting exams for over 800 students.
* Taught a discussion section for a class of 30 students for my University’s Discrete Math course.
* Worked with professors to identify weaknesses in students’ proof writing skills.

University of Michigan, computer aided engineering NETWORK Ann Arbor, MI

*Web Team Student Developer May 2018 – Jun 2018*

* Maintained the frontend of the University’s ParkIT web app using Python (Flask) and JavaScript.
* Streamlined new hiring processes by authoring a Python3 tutorial that teaches OOP concepts.
* Optimized University classroom scheduling through automated Python scripts.

singapore armed forces (SERGEANT) Singapore

*3rd Sergeant - Transportation Command HQ* *Feb 2015 – Feb 2017*

* Led a unit of 50+ soldiers on transportation missions, including replenishments of mission critical supplies, ensuring mission readiness through training of personnel for the job.
* Maintained morale and discipline by upholding leadership standards and punishing defaulters.

**Computer science SIDE PROjects**

**Instagram post auto-scheduler [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.
* 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.
* Patched a multithreaded race condition where modules were modifying the same environment variable.
* Doubled my speed in comprehending large codebases (over 50k LOC) by using vim and ctags.

laser engraver diy hardware project (2017)

* Built a DIY Laser Engraver made from scrap DVD Drives capable of engraving wood.
* Engineered a custom variant of the GRBL control software to run our hardware on the Arduino Platform.
* Presented a functioning prototype at the Singapore Maker Fair, a National fair for hardware innovators.

**Languages** Spoken & Written English and Chinese, Basic French

**CS Skills Expert:** C++, Python, Typescript **Worked with:** ES6+ JS, Node, Bash, Rust, Java

**Frameworks** AngularJS, React, Node, Grunt, Electron, Git, CMake, Flask, NumPy, Pandas

**For Fun** Ballroom Dancing, Soldering, Arduino, Raspberry Pi