

LAWRENCE TSAI

Email: Ltsai62@gmail.com [Linkedin: www.linkedin.com/in/lawtsai](https://www.linkedin.com/in/lawtsai) [Github: https://github.com/Lt77777](https://github.com/Lt77777) [Website: https://lt77777.github.io/](https://lt77777.github.io/)

PROFESSIONAL/RELEVANT EXPERIENCE

SpaceX

Software Engineer

May 2025 - Present
Redmond, WA, USA

- Building applications to accelerate space launch vehicle production and flight as well as systems for Starlink satellites

Capital One

Senior Associate Software Engineer

February 2025 - April 2025
Manhattan, New York City, NY, USA

- Building 2 **Distributed REST APIs** in **Golang** to determine decisioning experience and enroll **XX thousand card applications daily**
- Working with many downstream APIs to design/implement features to onboard new cards, create end-to-end tests, and support production
- Improving performance and converting the decisioning service into a configurable low-code solution while maintaining legacy decisioning service

Capital One

Associate Software Engineer

February 2024 - January 2025
Manhattan, New York City, NY, USA

Capital One

Software Engineer Intern

June 2023 - August 2023
Manhattan, New York City, NY, USA

- On the **Payments Intelligence** Team working on migrating transaction cache data from **Redis** to **DynamoDB** for our **gRPC API**
- First Place out of 36 teams in Intern Hackathon, created a Slackbot to summarize messages using **NLP** and **ML** over a weekend

University of Toronto Biology Information Technology Department

Information Technology Support Assistant

September 2022 - April 2023
Toronto, ON Canada

- Working with **Linux** environments, **TCP/IP** Protocols, & **Bash** scripting to create embedded systems for the department
- Maintaining department hardware and conducting **Penetration Tests** to find vulnerabilities in for 3 biological science departments

Promise Robotics

Software Engineer Intern

May 2022 - August 2022
Edmonton, AB, Canada

- Company's first intern working with **Python**, **Django**, **Robotics**, **CAD**, **Databases** over 16 weeks; <https://promisrobotics.com/>
- Top intern contributor in creating algorithms for robotic preprocessing/sequencing with applied Physics and **ML** for automated construction
- Developed the **full-stack API** with UI and robotic code outputs to run physical demonstrations of our **MVP for seed investors**

University of Toronto Aerospace Team

Space Systems Optics Team Member

May 2022 - May 2023
Toronto, ON, Canada

- Development of a hyperspectral imaging CubeSat to measure anthropogenic gas emissions across Ontario, Canada. Set to launch in 2025.
- Numerical analysis (**Python**) and R&D for optical components (grisms and holographic gratings); Github: <https://github.com/spacesys-finch>
- Leading a team to design test plans for the optical bench (imaging, components, MTF) for the satellite; <https://www.utat.ca/space-systems>

Blue Sky Solar Racing

Senior Strategy Engineer

May 2021 - April 2023
Toronto, ON, Canada

- Optimized the construction, telemetry, & performance of our solar car for the American and World Solar Competition along with fabrication
- Conducted research on the implementation of bifacial solar cells and created simulations of cell output from weather and geographic data
- Created a parallel computed simulation (**MATLAB**, **Python**, **Ansys**, **CAD**) in a StratApp for future gens; <http://blueskysolar.utoronto.ca/>

EDUCATION

University of Illinois Urbana-Champaign

MCS Candidate, cGPA: 4.00, Dropped Out

January 2024 - April 2025
Urbana-Champaign, IL, USA

- **Graduate Coursework:** Applied Machine Learning, Text Information Systems, Data Cleaning, Data Visualization

University of Toronto - Trinity College

HBSc - Math (Major), Physics (Major), Computer Science (Minor) with Distinction

September 2020 - December 2023
Toronto, ON, Canada

- **Graduate Coursework:** K-Theory & C* Algebras, High Energy Physics, Formal Methods in Software Design

Council Rock High School North

Diploma with Distinguished Honours in Gifted Program GPA: 4.283/4.0 SAT: 1580/1600 ACT: 35/36

August 2016 - June 2020
Newtown, PA, USA

SKILLS

Software Skills
Certifications

GoLang, Python, AWS, Java, C, MATLAB, Jenkins, GraphQL, Django, Distributed Systems
AWS Solutions Architect - Associate, Bloomberg Market Concepts