Matthew Leung

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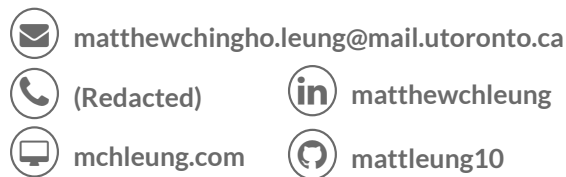☎ (Redacted)
🖥 mchleung.com
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Education

B.A.Sc. in Engineering Science
University of Toronto | 2018-Present
- Specializing in Engineering Physics
- Minor in Artificial Intelligence Engineering

Skills

Software Development
Languages
Python • C/C++ • Java • MATLAB
Libraries and Frameworks
NumPy • SciPy • PyTorch • OpenCV • Pandas • Astropy • Java Applet

Hardware
Arduino • Raspberry Pi • Verilog • Embedded Systems

Graphics and Media
Photoshop • After Effects • Vegas Pro

Other
Zemax OpticStudio • Machining

Other Experience

- **George Brown / U of T MIE** Basic Machining Course Certification (2019)
- Representative, **Faculty Council** Undergraduate Curriculum Committee (2019)
- President, Markville S.S. **Peer Tutoring Club** (2018)
- **SHAD** Fellow (2017)

Hobbies & Interests

- Photography
- Stop Motion Animation
- Reading about History
- Playing Guitar

Work Experience

Dunlap Institute for Astronomy & Astrophysics
Research Assistant
May 2020 - Present
- Working under Dr. Shaojie Chen on a DMD-based Multi-Object Spectrograph
- Used Zemax OpticStudio to design, analyze, and optimize optical systems
- Currently creating a hyperspectral data reduction pipeline and ray tracing simulation with Python; utilized digital signal processing techniques

National University of Singapore
Research Assistant
May 2019 - August 2019
- Worked under Prof. Ghim Wei Ho at the ESP Multidisciplinary Laboratory, Department of Electrical and Computer Engineering
- Investigated surface plasmon resonance in photocatalytic hydrogen generation, and solar reflective nanofilms

Projects

GoTo Telescope Mount 🖥
- Created an alt-azimuth mount controlled by a Raspberry Pi and Arduinos, for a 4.5-inch Newtonian telescope; programmed with Python and C/C++
- Features: Internal database of 7000+ objects, feedback control system using rotary encoders, object tracking using Astropy and Multiprocessing libraries

Volunteering

IEEE University of Toronto Student Branch
Marketing Managing Director
April 2019 - Present
- Leading a team to create graphics for events and to manage social media accounts
- Planned technical workshops, outreach events, and a hackathon (MakeUofT)
- Formerly Electronics Associate (April 2019 - March 2020)

University of Toronto Society of Petroleum Engineers
Vice President, Marketing
August 2019 - Present
- Responsible for overall marketing strategy, creation of posters and graphics, and promotion of events through social media

Awards

Dunlap Institute SURP Research Fellowship	2020
Society of Petroleum Engineers CEF Scholarship Award	2020
3rd Place: **U of T Engineering Competition**, Programming Category	2020
Electro-Federation Canada Scholarship Award	2019
U of T Division of Engineering Science ESROP Global Research Fellowship	2019
University of Toronto Bennett Scholar	2018
TransCanada Community Leaders Scholarship	2018
Ontario Principals' Council Award for Student Leadership	2018

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