Matthew Chen

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EDUCATION

University of Waterloo   Waterloo, ON
HBasc in Electrical Engineering, Intel Scholarship, President's Scholarship of Distinction   *Sep. 2024 – Apr. 2029*

University of Toronto Schools   Toronto, ON
UTS + OSSD Diploma, AP Scholar with Distinction, Anthony Chan Award, SHAD Fellow   *Sep. 2020 – June 2024*

EXPERIENCE

Artificial Intelligence Researcher   June 2023 – April 2024
University of Toronto   *Toronto, ON*
- Worked with PhD Candidate Andrew Nader under Dean of Electrical and Computer Engineering Deepa Kundur on *"Binary Convolutional Auto-Encoders for Transmission Protective Relays Anomaly Detection"*
- Researched Bayesian optimization, CNNs, and the potential for cyberattackers to penetrate transmissive protective relays (TRPs)
- Examined ML algorithms, conducted extensive literature review, edited paper, investigated power grid architecture

Secretary-General   May. 2023 – June 2024
(Southern Ontario Model UN Assembly) | University of Toronto   *Toronto, ON*
- President/Lead organizer for the oldest Model UN conference in North America with **800+** participants, hosted at the University of Toronto
- Constructed website frontend with commercial frameworks, providing a seamless registration experience that generated **$75 000** in gross revenue
- Gave keynote speech and secured Pericles Lewis, Dean of Yale, as guest speaker
- Led and trained team of 100 staff, oversaw budget, topic selection, venue negotiations, etc.

Research Fellow   July 2024 – August 2024
Non-Trivial Foundation   *Virtual*
- Specially shortlisted to be one of 150 selected out of 10000+ applicants, awarded scholarship
- Enhancing power grid resilience through machine-learning techniques (specifics TBD)

Developer   July 2024 – August 2024
Hatch Coding × Crunch Labs (Mark Rober)   *Virtual*
- Ideated, designed, and created code for a YouTube creator with 54 million subscribers

PROJECTS

Hall Effect Levitation Platform | *C++, Arduino, CAD*   2024
- Under construction

TECHNICAL SKILLS AND CERTIFICATIONS

Languages: Python, C/C++, JavaScript, HTML/CSS, LaTeX
Tools: Git, Visual Studio Code, GitHub, Jupyter, Arduino
Libraries: NumPy, Matplotlib, Scikit-learn, PyTorch, TensorFlow, pandas, Magenta
ARCT in Piano Performance - Honors

TESTING

Scholastic Aptitude Test (SAT)   Jun. 2023
1540/1600 (99th+ percentile)

Advanced Placement (AP) Examinations   Jun. 2022 - Jun. 2024
Calculus: **5/5** , Chemistry: **5/5** , Computer Science: **5/5**, Physics 1: **5/5**, Literature and Composition: **5/5**, Seminar: **5/5**