Kyle Mills

kyle@kylemills.net

114 Chatfield Dr.
Ajax, Ontario
Canada

(905) 995-3646

kyle@kylemills.net

github.com/millskyle

languages

Python, SQL, C/C++, Bash, PHP, JavaScript (with AngularJS), HTML

skills/ software/tools

Matlab, iPython Notebook, Python (with Numpy, Matplotlib, etc.), Git, Linux, Gnuplot, LaTeX, Slack, web design, programming, scripting, teaching, scientific graphic design

References available upon request

education

2015–present **M.Sc.** Master's of Science candidate — *University of Ontario Institute of Technology*
Modelling and Computational Science
Original research thesis and course-based Master's *in progress,*
current 4.30 GPA

2011–2015 **B.Sc.** Bachelor's of Science — *University of Ontario Institute of Technology (UOIT)*
Physics (Honours), minor in Mathematics.
Graduated with Highest Distinction with 3.92 GPA.
President's list 2011, 2013, 2014, and 2015.
Dean's list 2012.

experience

2015–present **Programming/Electronics course content design** — *UOIT*
- Design course content to introduce Faculty of Education students to programming and electronics.
- Lead tutorials and extra-curricular workshops to teach students about Linux and Raspberry Pis.

2013–present **Teaching assistant** — *UOIT*
- Supervise laboratory experiments for physics courses.
- Design and instruct introductory Raspberry Pi physics laboratory experiments.
- Conduct tutorials to assist students in understanding advanced physics concepts.

2014 **Research assistant** — *Computational Laboratory for Energy and Nanoscience*
- Performed large-scale, distributed computations of atomic-scale materials science problems, working toward the design of lightweight aluminum composites.
- Worked in collaboration with researchers at National Research Council, Ottawa, Ontario.
- Experience building and running highly parallelized programs.

2012–2014 **Summer student, Energy Settlements Dept.** — *Veridian Connections, Ajax*
- Wrote complex SQL database queries for reports, audits, etc.
- Assisted system administrator with server maintenance.
- Wrote scripts to automate tasks and increase employee efficiency.
- Assisted with generation, validation, and distribution of electricity bills.

awards

2015 **Ontario Graduate Scholarship** *(value: $15000)*
Provincial scholarship awarded to students based on academic performance and research potential.

2014 **Rotoract UOIT Scholarship** *(value: $1000)*
Scholarship awarded to the 16 top-performing students at the University of Ontario Institute of Technology.

2014 **NSERC-CSRNG Undergraduate Student Research Award** *(value: $6000)*
National award given to students who show research potential and excellent academic performance

2011 **UOIT Entrance Scholarship** *(value: $2000/year)*
Awarded to students with a 90%+ high school average upon entrance

publications and presentations

2015 **Designing lightweight aluminum composites: A first principles density functional theory approach.**
Conference of Metallurgists, Toronto, Ontario
Presented research at Canadian metallurgy conference in the computational materials science symposium.

2015 **Comparison of theoretical methods with boron nitride nanostructures.**
Undergraduate Summer Research Showcase, Oshawa, Ontario
Competitive poster presentation at the University of Ontario Institute of Technology

2015 **Long-lived ligand-to metal charge-transfer state of an oxidovanadate complex**
Designed cover image chosen to appear on the cover of the July 30, 2015 issue of the Journal of Physical Chemistry C.

2014 **Aluminum wetting of hexagonal boron nitride.**
National Research Council Security and Disruptive Technologies 2014 Tech Day, Ottawa, Ontario
First place winning poster in competitive poster presentation.

2014 **Designing lightweight aluminum composites: A density functional theory approach.**
Canadian Undergraduate Physics Conference, Queen's University, Kingston, Ontario
Presented original research in a competitive talk aimed at other Canadian undergraduate physics students.

2014 **Aluminum wetting of hexagonal boron nitride.**
Undergraduate Summer Research Showcase, Oshawa, Ontario
Competitive poster presentation at the University of Ontario Institute of Technology.

notable projects/extra-curricular

2015 **Interval Scheduling Algorithm with Applied Constraints**
- Developed a scheduling web app that utilizes Monte Carlo methods and graph theory to optimize students' schedules. Available at http://scheduler.uoitphysics.ca.

2015 **Science Rendezvous Weather Balloon Launch (HABEX) Team Lead**
- Coordinated and lead the launch team of a HABEX weather balloon for UOIT's Science Rendezvous.
- Coordinated with local authorities to ensure a safe launch.
- Represented UOIT Physics to community members and families.
- Designed website displaying results and footage from the activity (http://uoitphysics.ca/balloon).
- Perform interviews with local media contacts.

2015–present **President, Academic Skills Club**
- Design and teach workshops for undergraduate and graduate students to develop useful scientific research and programming skills.

2014–2015 **Vice President, UOIT Physics Society**
- Build and maintain website (uoitphysics.ca), manage social networking.
- Build email distribution system for mailing list (PHP, MySQL, HTML)
- Act effectively as main contact between physics faculty and students.