

Connor Lawless

CONTACT	Cornell University Operations Research & Information Engineering 294 Rhodes Hall, Ithaca, NY 14853	(234) 244-7572 cal379@cornell.edu
RESEARCH INTERESTS	Operations research, mathematical programming, statistical learning, integer programming, fair machine learning, interpretable ai	
EDUCATION	Cornell University Ph.D. in Operations Research (4.0 GPA) – Advisor: Professor Oktay Gunluk	<i>August 2019 - Present</i> <i>Ithaca, NY</i>
	University of Toronto B.Asc. in Industrial Engineering (4.0 GPA) <i>Undergraduate Thesis: The Multi-Armed Investor: Modelling investment decisions through the lens of a multi-armed bandit problem (advised by Prof. Chi-Guhn Lee)</i>	<i>September 2014 - June 2019</i> <i>Toronto, ON</i>
PAPERS	C. Lawless, O. Gunluk. Fair and Interpretable Decision Rules for Binary Classification (<i>under review</i>).	
PATENTS	H. Burhani et al. Trade platform with reinforcement learning. <i>US Patent Application</i> 16426196	
ACADEMIC PRESENTATIONS	Fair and Interpretable Decision Rules for Binary Classification – ORACL Workshop, Cornell University	<i>June 2019</i>
TEACHING EXPERIENCE	Data Science, Head Teacher iXperience – Taught a 6 week intensive data science bootcamp covering python development, machine learning, and data visualization to 30 undergraduate students from the world's top universities. – Supervised 10+ remote industry internships for our students at startups located in South Africa, Europe, and the US. – Previously was a teaching assistant for the course in 2019 in Cape Town.	<i>June 2020 - August 2020</i> <i>Cape Town (Remote)</i>
	Guest Lecturer Cornell University – ENGRI 1101 - Engineering Applications of Operations Research – ORIE 6140 - Mathematical Modelling of Operational Systems	<i>Ithaca, NY</i> November, 2019 October, 2020
	ORIE 5300: Optimization I, Teaching Assistant Cornell University – Taught recitation sections on linear programming, duality, and AMPL to 50 masters students.	<i>September 2019 - Decemeber 2019</i> <i>Ithaca, NY</i>
HONOURS	Ontario Professional Engineers Foundation for Education Gold Medal – Awarded to the graduating engineering student at the University of Toronto with the top academic average across all engineering disciplines (1st out of 1000+ students).	<i>2019</i>
	W.S. Wilson Medal – Awarded to the top graduating industrial engineering student at the University of Toronto (1st out of 100+ students).	<i>2019</i>
	Edward L. Donegan Scholarship (\$100K) – Awarded a full undergraduate academic scholarship to study engineering by the University of Toronto on the basis of scholastic and leadership achievements.	<i>2014 - 2019</i>

Ben Bernholtz Memorial Prize in Operations Research*2016*

- Awarded to the top undergraduate student at the University of Toronto in operations research on the basis of performance in undergraduate optimization courses.

**WORK
EXPERIENCE****Summer Analyst
BlackRock***June 2018 - August 2018
London, UK*

- Developed a new micro service to disentangle a database dependency from the existing trade management server; reduced downtime of critical system that processed over 1M orders daily.
- Designed and implemented a new group finder and collaboration tool to improve employee moral; project was awarded first place at the internal intern hackathon (out of 10 teams).

**AI Scientist
Royal Bank of Canada***September 2017 - June 2018
Toronto, ON*

- Worked on a team of 3 to build the first reinforcement learning based trade execution algorithm in Canada (patent pending); the algorithm is currently in production and has traded over \$1 billion dollars notionally across Canada and the US between 2017 and 2019.
- Built a custom user interface using React JS and Python to track the algorithm's performance; the interface exposed critical errors in the algorithm, reducing development time, and was distributed to the electronic traders, building trust and increasing the algorithm's adoption rate on the trading floor.

**Summer Analyst
BlackRock***June 2017 - August 2017
Seattle, WA*

- Developed a new tool to visualize and analyze customer reporting distribution metrics; currently being rolled out globally on the Aladdin platform to BlackRock's 13,000 employees.
- Rewrote an existing stored procedure to fetch customer profiles; reduced querying time of common use case from 5 minutes to 15 seconds
- Added functionality to sync CRM contacts to sales personnel's phones as part of an internal team intern hackathon; advanced to the national finals (4 out 30 teams) and presented our product to the global head of product management.

**Data Science Intern
GetSmarter***June 2016 - August 2016
Cape Town, SA*

- Developed a ridge regression model to discover that GetSmarter was spending 15% more than they needed on academic advisor support; presented the results to the Director of Education and CFO.
- Integrated data from GetSmarter's database, phone call logs, and CRM system to create the company's first data pipeline for statistical modelling.

**LEADERSHIP
EXPERIENCE****Activities Planner
Operations Research Graduate Association***April 2020 - Present
Ithaca, NY*

- Organizing social activities for both PhD students and faculty

**Managing Director, Start-up
You're Next Career Network***April 2020 - February 2019
Toronto, ON*

- Led a team of 10 to run Canada's largest Startup Career Fair with 90 startups, and 3000+ students (revenue = \$40,000+)
- Pioneered Entrepreneurship Week, a week-long case competition to expose students to entrepreneurship, that connected 8 startup mentors to 100+ students

**Archivist
University of Toronto Engineering Society***March 2015 - March 2016
Toronto, ON*

- Led a team of 15 to manage the faculty's historical artifacts; expanded the portfolio to include community outreach, an online services team, and a documentary filmmaking team comprising over 80 volunteers.
- Awarded Project Director of the Year, an award given to the three engineering society project directors deemed to have done the best job with their respective positions over the 2015-16 year out of 22 project directors.

RELEVANT SKILLS	Languages:		English - Proficient French, German - Intermediate
	Programming:		Python, R, Java, SQL, MATLAB, C, Gurobi LaTeX, ReactJS, HTML, Windows/Unix Environment
	Development:		Git, SVN
GRADUATE COURSEWORK	Cornell University		
	MATH	4130	Honors Real Analysis
	MATH	4330	Honors Linear Algebra
	ORIE	6300	Mathematical Programming
	ORIE	6330	Graph Theory
	ORIE	6500	Applied Stochastic Processes
	ORIE	6700	Statistical Principles
	ORIE	6746	Causal Inference
	ORIE	6750	Optimal Learning
	ORIE	7790	High Dimensional Probability & Statistics
PROFESSIONAL MEMBERSHIPS	Institute for Operations Research and the Management Sciences (INFORMS)		
	National Organization of Gay & Lesbian Science and Technology Professionals (NOGLSTP)		