Arvind V Shrivats

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ACADEMIC BACKGROUND

PRINCETON UNIVERSITY | Postdoctoral Data Scientist
May 2021 – present | Princeton, NJ

- **Primary investigators**: Drs. René Carmona and Ronnie Sircar
- **Project**: Performance-based Energy Resource Feedback, Optimization, and Risk Management (funded by ARPA-E)
- Quantifying risk faced by electrical grid operators as energy mix shifts towards variable renewable energy sources and allocating risks back to responsible generators
- Present quarterly updates to ARPA-E team

UNIVERSITY OF TORONTO | Ph.D. in Statistics
Sep 2016 – April 2021 | Toronto, ON

- **Primary investigator**: Dr. Sebastian Jaimungal
- **Thesis**: Optimal Behavior and Equilibrium in Emissions Regulation Markets
- Studied emissions regulation markets and developed models for optimal behavior of 1) regulators that set rules and 2) agents regulated by them, accounting for cost agents face as well as agent-agent and agent-regulator interactions

UNIVERSITY OF WATERLOO | Bachelor of Mathematics
Sep 2011 – Sep 2015 | Waterloo, ON

- Joint Major in Financial Analysis and Statistics
- **GPA**: 3.97/4.00, graduated with distinction

RELEVANT EXPERIENCE

CIBC | Treasury Analytics Intern
May 2019 – Aug 2019 | Toronto, ON

- Developed statistical models to predict mortgage prepayment rates across CIBC mortgage book to be used in interest rate hedging
- Significantly improved out-of-sample performance of mortgage prepayment models over incumbents

CPP INVESTMENTS | Operational Due Diligence Analyst
Sep 2015 – Sep 2016 | Toronto, ON

- Assessed external hedge funds, evaluating their operational controls, procedures, and protocols; shared insights with investment team

SELECT PUBLICATIONS

[1] A. Shrivats, D. Firoozi, and S. Jaimungal. A mean-field game approach to equilibrium pricing, optimal generation, and trading in Solar Renewable Energy Certificate (SREC) markets. *Under Review at **Mathematical Finance**. arXiv preprint arXiv:2003.04938*, 2020.

[2] A. Shrivats and S. Jaimungal. Optimal generation and trading in Solar Renewable Energy Certificate (SREC) markets. ***Applied Mathematical Finance***, 27(1-2):99–131, 2020.

SKILLS

STATISTICS
Generalized linear models • Latent variable models • Computational statistics • Optimal control • Mean field games

PROGRAMMING
Python • Matlab • R • SQL • Version control via Git • Data visualization (Shiny, Tableau, matplotlib)

AWARDS

2020	Ontario Graduate Scholarship
2020	UofT Department of Stastical Sciences - Early Research Award
2019	Ontario Graduate Scholarship
2017	NSERC Canada Graduate Scholarship - Master's

TEACHING

UNIVERSITY OF TORONTO
Teaching Assistant
Sep 2016 - April 2021 | Toronto, ON

- Conducted weekly tutorials and lectures, developed lesson plans, and graded submitted work
- **Courses**: probability, multivariate data analysis, mathematical finance (graduate course), and data science (graduate course)

EXTRACURRICULARS

VOX MEDIA | Writer / Host
2014 - present

- Host the Back to Excited podcast, receiving 2,000+ listens per week
- Pitch, write, and deliver high-quality articles applying math to hockey for SB Nation's Toronto Maple Leafs sub-site

PORTFOLIO

- Primary contributor papers: 2
- Secondary contributor papers: 1
- Conference presentations: 6

Full publication & presentation history available upon request