

Arvind V Shrivats

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ACADEMIC BACKGROUND

PRINCETON UNIVERSITY | POSTDOCTORAL DATA SCIENTIST

May 2021 – April 2022 | 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 on the Dean's Honour List

RELEVANT EXPERIENCE

SUSQUEHANNA INTERNATIONAL GROUP | QUANTITATIVE STRATEGIST

May 2022 - present | Bala Cynwyd, PA

- Automated processes for systematic model improvement by developing scheduled jobs which compare outcomes of simulation models to realized events across a variety of cross-sections, allowing us to identify problematic areas and blind spots of models with increased speed and accuracy

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

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