

# Sam Grootelaar

## EDUCATION

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### Rotman School of Management & Department of Economics, University of Toronto

*Master of Financial Economics*

Toronto, Ontario

*Expected June 2026*

- **Award:** Graduate Entrance Scholarship
- **Relevant Courses:** Security Analysis and Portfolio Management (MA); Options and Futures Markets (MBA); Econometrics (MA); Financial Economics (MA); Corporate Finance (MBA)

### Department of Mathematical and Statistical Sciences, University of Alberta

*Honors Bachelor of Science (Major in Mathematics and Economics)*

Edmonton, Alberta

*Sep 2017 – May 2022*

- **Academics:** cGPA 3.5/4.0
- **Awards/Scholarships:** Bank of Canada Governor's Challenge Winner 2021; Chevron Academic Achievement Scholarship; Merit Scholarship for Specialization in Mathematical Sciences
- **Relevant Courses:** Numerical Methods (A), Time Series Analysis (A), Econometric Methods (A+), Computer Science II (A), Mathematical Statistics (A-), Honors Advanced Calculus II (A-), Advanced Macroeconomic Theory (A-)

## INDUSTRY CERTIFICATIONS

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- CFI Financial Modeling & Valuation Analyst (FMVA) Certification

2024

## PROFESSIONAL EXPERIENCE

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### International Emissions Trading Association (IETA)

*Analyst*

Calgary, Alberta

*May 2021 – May 2024*

- Produced timely briefs of key regulatory and legislative developments relevant to North American carbon markets
- Formulated IETA government policy submissions based on organizational expertise, independent research, and IETA member input
- Used R and Python for internal modeling of Article 6 of the Paris Agreement and for streamlining tasks

Notable Project: Carbon Contracts for Difference (CCFD) – White Paper

- Assessed the potential for CCFDs to be delivered in Canadian carbon markets by the Canada Growth Fund (CGF)
- Formulated findings in a [white paper](#) delivered to the CGF, Finance Canada, and Environment and Climate Change Canada
- Discussed and presented the paper's findings with key stakeholders at IETA conferences in both Toronto and Vancouver

## RELEVANT ACADEMIC PROJECTS

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### Econometrics: Impact of Alberta's output-based pricing system (OBPS) on labour markets

2022

- Found a relationship between the introduction of Alberta's OBPS and an increase the unemployment rate in line with other studies
- Determined appropriate models (fixed effect) and standard errors considering heteroskedasticity present in the underlying data ([code](#))

### Python: Image compression using singular value decomposition (SVD)

2021

- Created Python image compression software using the numpy and matplotlib libraries ([code](#))
- Program deploys SVD, an advanced algebraic technique that allows the extraction and untangling of key information

### Finance: Assessment model for inseting vs. offsetting in Albertan carbon markets for TrustBix

2021

- Derived an algorithm, using the concept of present value, to determine whether a company should inset or offset their emissions
- Deployed the algorithm in an excel tool, considering the unique Albertan carbon market context and rising carbon price schedule

## EXTRACURRICULAR ACTIVITIES

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### Bank of Canada Governor's Challenge Winner

*Research Analyst*

Edmonton, Alberta

*Sep 2020 – Feb 2021*

- Governor's Challenge sees top Canadian universities compete to present a monetary policy recommendation in 15 mins
- Effectively worked in a team to comprehend the extraordinary economic circumstances presented by the COVID-19 pandemic and delivered a recommendation to maintain the overnight rate at the effective lower bound and existing levels of quantitative easing

Analysis Highlights:

- Used two vector autoregression (VAR) models to forecast the Canadian economy's recovery from the pandemic
- Considerately used the U.S. Federal Reserve's [advice](#) for how best to account for pandemic data in VAR models
- Uniquely considered business bankruptcy and sentiment metrics to support our forecasting results

## PERSONAL

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- **Technical skills:** Familiar with Excel, Intermediate Python and R ([Github Profile](#))
- **Languages:** Conversational German (A2 Level)
- **International Experience:** Lived in Venezuela, Nigeria, Australia, and England in my formative years (ages 1-16)
- **Interests:** Travel & photography ([Namibia photography](#)), automotive enthusiast ([Nissan 350z](#)), audiobook lover ([goodreads](#))