VANYA GEORGIEVA

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Economist and Data Scientist leveraging data and modeling to generate actionable insights in dynamic settings

Languages: English (Native), French (Fluent), Italian (Advanced), Bulgarian (Native)

EXPERIENCE

Fund Internship Program, International Monetary Fund (IMF)   **June – August 2024**
- Uncovered links between government subsidies and tariffs and sector positioning in supply-chains
- Presented to senior economists and division chiefs across three departments
- Authored working paper published by IMF ["Production Network Features of Industrial Policy"](Production Network Features of Industrial Policy)
- Built and analyzed high-dimensional dataset stemming from 3 sources for use in original research, subsequent departmental report and upcoming book chapter *(Pandas, NumPy, matplotlib, seaborn, networkx, pystata, STATA)*

PhD Candidate (Researcher) – Economics, *University of Toronto*   *2022 – Present*
- Independent researcher producing 4 novel projects using large set of quantitative methods and programming tools.
- **Global Production Networks in Trade and Industrial Policy – Job Market Paper**
  (Python: Causal Inference, Structural Modeling, and Optimization)
  Evaluated welfare impacts of tariffs and subsidies under different levels of political cooperation and identified most impactful policies using quantitative structural model of global production networks.
- **The State of Semiconductors: Investments in Knowledge and Capital** *(Python: NLP, LLM; SQL: Google BigQuery)*
  Analyzed investment decisions of semiconductor firms in R&D and physical capital by building novel dataset containing patent abstracts (NLP), physical assets, and financial information.
- **Transit and Bikeshare: Evidence from Rider Switching Behaviour** *(R: Non-parametric modeling)*
  Demonstrated use of bikeshare in the first/last mile of trips in downtown Toronto using non-parametric model.
- **Winners and Losers under Dual Market Power** *(MATLAB: Optimization)*
  Developed structural model of a 2-sided market where firms can simultaneously exert market power over customers and suppliers, such as e-commerce platforms.
- **Conferences:**   National Bureau of Economic Research (NBER) Digital Economics and AI Tutorial, 2023
                  NBER Economics of AI Conference, 2023 (Attendee)
                  Canadian Economic Association, Annual Conference, 2025 (Session Chair)

Research Assistant   **2017 – 2024**
University of Toronto, 2020-24;   UOIT, 2019; University of Ottawa, 2017-2018
- Contributed to 5+ projects on diverse range of topics
- Published co-authored article: ["Self-employment and Financial Practices: on Budgeting"](Self-employment and Financial Practices: on Budgeting) with Allan Riding and Miwako Nitani
- Constructed dataset used for causal inference study regional AI hubs *(Python: Data Processing, Web Scraping and APIs)*
- Produced clean code to create visuals, perform categorization and clustering. Code was implemented remotely by Bank of Norway on confidential tax records. *(Python: Data Processing, Data Visualization, Machine Learning, Statistics; STATA)*
- Conducted bilingual interviews, gathered data on venture capital funding rounds, performed literature review.

Student Auditor Intern, Government of Canada, *PSPC, ASG,*   *May – August 2016*
- Performed labour time recording systems audit of federal military contractor in the National Capital Region, identifying reporting gaps that informed final audit findings. Work required security clearances.

EDUCATION

PhD – Economics, University of Toronto   **2026 (Expected)**
- Committee: Daniel Trefler (Supervisor), Victor Aguirregabiria, Kevin Lim, Joseph Steinberg
- Awards: • Social Sciences and Humanities Research Council (SSHRC) Doctoral Fellowship ($80K) • Faculty of Arts & Science Top Doctoral Fellowship ($81K) • Ontario Graduate Scholarship ($15K) • Dorothy J. Powell Award ($9K)
- Other: Data Science Certificate for Doctoral Students

MA – Economics, University of Toronto   **2020**
- Awards: • Canada Graduate Scholarship - Master's (CGS-M) ($17K)

Honours BCom – Finance, Summa Cum Laude, University of Ottawa   **2018**
- Awards: • President's Scholarship • Dean's Leadership Scholarship ($30K) • French Immersion Bursary for Bilingual Degree ($8K) • Mobility Scholarship ($6K) • Chancellor's Scholarship Finalist • Dean's List

SKILLS

Programming: • **Python** (Advanced) • **SQL** (Advanced) • **STATA** (Advanced) • **R** (Proficient) • **MATLAB** (Proficient)

Analytics: • Data Processing *(Pandas, NumPy)* • Data Visualization *(Matplotlib, Seaborn)* • Statistics *(SciPy)* • Econometrics • Causal Inference • Machine Learning • Optimization • Structural Modeling • Non-parametric Modeling • Timeseries • BigData *(Google BigQuery)* • Cloud computing *(GCP)* • Version control and collaboration *(Git, Github)* • NLP *(nltk, spaCy, Hugging Face)* • Graph Mining *(NetworkX)* • LLMs and Gen AI *(Cohere, BERT, OpenAI API)*

Professional: • Presentation and Communication • Report Writing • Project Management • Collaboration • Problem Solving • Strategic Thinking • Stakeholder Engagement