

Tato Khundadze

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Profile

PhD candidate in Economics at The New School, specializing in machine learning applications to macroeconomic modeling and economic dynamics. Research integrates deep reinforcement learning, SINDy, and statistical techniques with applied policy analysis. Experienced in academic teaching, including undergraduate and graduate courses in econometrics and machine learning for economics. Background includes international research collaboration and consulting for institutions such as UNDP and CEP. Proficient in Python, Stata, and \LaTeX , with strong interests in data-driven approaches to macroeconomic modeling and policy design.

Education

- 📖 **Ph.D. in Economics, The New School** (expected 2026).
- 📖 **MA in Economics, The New School.**
- 📖 **B.Sc Engineering Sciences, Georgian Technical University.**

Teaching

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|-------------------|---|
| 2024, Spring | 📖 The New School , Instructor for Computer Language Workshop (Python Programming, Basics of Deep Learning and Forecasting in Python) |
| 2023-2024, Fall | 📖 The New School , Teaching Assistant for Advanced Econometrics I |
| 2023, Summer | 📖 The New School , Teaching Fellow for Summer Math Camp (Calculus, Differential Equations and Optimization) |
| 2023, Spring | 📖 Eugene Lang College , Teaching Fellow for Introduction to Econometrics |
| 2022-2024, Winter | 📖 The New School , Teaching Fellow for Winter Intensive Statistics Course |
| 2022-2023, Spring | 📖 The New School , Teaching Assistant for Graduate Econometrics |
| 2022, Spring | 📖 Barnard College, Columbia University , Teaching Assistant for Introduction to Economic Reasoning |
| 2021, Fall | 📖 The New School , Instructor for Statistics for Social Scientists |
| 2018-2019 | 📖 The Georgian-American University , Invited Lecturer in International Political Economy |

Research Projects

- 2024 ■ **NSSR, EU Debt Management Using Deep Reinforcement Learning and Nonlinear Model Predictive Control (NMPC)**
- 2024–2025 ■ **NSSR, Applying SINDy (Sparse Identification of Nonlinear Dynamics) in Growth Models**
- **NSSR, Estimation of Surplus Utilization Through Transfer Entropy and Unsupervised Learning**

Research Publications

- 2024 ■ **Khundadze, T., Semmler, W.** *European Sovereign Debt Control through Deep Reinforcement Learning and NMPC.*
- 2022 ■ **Topuria, A., Khundadze, T.** *Neoliberal Lock-in: Why Georgia–EU Free Trade Does Not Work.*
- **Khundadze, T., Alvarez, A.** *Debt Mechanisms and Education Financing: A Comparative Study in Seven Countries.*
- 2021 ■ **Khundadze, T.** *Public Spending on Education and External Public Debt in Georgia.*
- 2018 ■ **Godar, S., Khundadze, T., Truger, A.** *Striving for Shared Prosperity: A Proposal for Income Tax Reform in Georgia.*
- **Khundadze, T., Avaliani, Z.** *Short History of Georgian Industry.* Ministry of Education of Georgia, Case of Georgia.
- 2017 ■ **Khundadze, T.** *Reindustrialize Eastern Europe? Perspectives of Progressive Economic Policy in the Countries of the Eastern Partnership, Russia, and Germany.*
- 2016 ■ **Adeishvili, D., Khundadze, T.** *Challenges for Industrial Policy in Georgia.*





Work Experience

- 2024 – ■ **The New School,** Research Assistant to Professor Willi Semmler.
- 2023 (May – September) ■ **The Council on Economic Policies (CEP),** Research Consultant. Analyzed tax expenditure reports across various countries, assessed performance on five key dimensions, and compiled supporting documentation. Contributed to the refinement of the GTETI survey questions.
- 2022 (Fall) ■ **The New School,** Research Student Assistant. Analyzed the AAUP-TNS Faculty Working Conditions Survey.




Work Experience (continued)

- 2022 (July – January)  **UNDP, New York**, Data Analyst Intern. Developed the Multidimensional Poverty Index (MPI) dataset, coding in Stata to disaggregate MPI estimates for 98 countries by gender, area, and region.
- 2020 – 2021  **The New School**, Research Student Assistant to Professor Ying Chen.
- 2019 – 2021  **The New School**, Graduate Student Assistant and Economics Department Student Liaison.
- 2017 – 2019  **Georgian Public Broadcaster**, Head of Analysis Division. Led a public research initiative for Georgian 1st Channel, coordinated with government ministries, the National Bank of Georgia, and academic institutions. Conducted fiscal, trade, and unemployment policy analyses, organized high-profile conferences and roundtables, maintained a regular media presence, and interviewed prominent economists including Ha-Joon Chang, Jeffrey Sachs, Robert Wade, and Erik Reinert.
- 2010 – 2017  **Caucasian House**, Project Manager, Researcher.
- 2014 – 2016  **University of California, Irvine**, Consultant.
- 2009  **Centre for Strategic Analysis of Georgia**, Intern.




External Courses and Specializations

- 2024–2025  **MicroMasters Program in Statistics and Data Science**, MIT
- 2023  **Machine Learning Specialization**, Stanford Online, offered by DeepLearning.ai
-  **Mathematics for Machine Learning**, DeepLearning.ai (Topics: Linear Algebra, Calculus, and Optimization in Python)
-  **Mastering Python Programming through Scientific Projects**, Udemy (Python)

Skills

- Languages  Georgian, English, Russian.
- Programming  Python, Stata, R, Excel, EViews, MATLAB (basic), L^AT_EX, Git, Quarto.
- Other Skills  Academic research, teaching, training, consultation.

Scholarships

- 2024-2025  **Dissertation Fellowship, The New School.** The award amount is \$25,000.
- 2021  **Prize Fellowship, The New School,** Full PhD tuition and Stipend for 3 years.
- 2019  **Georgian Government Scholarship and the New School,** Full Master's Tuition and Stipend.

References

Prof. Willi Semmler

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Prof. Robert H. Wade

Professor of Global Political Economy
London School of Economics (LSE)
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Prof. Ying Chen

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