



SCAN ME

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Education

Georgia Institute of Technology

PH.D., ECONOMICS; SPECIALIZING IN INTERNATIONAL TRADE AND GEOSPATIAL RESEARCH
M.S., GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY
M.S., ECONOMICS

Atlanta, GA

August 2017 — Present
August 2020 — May 2022
August 2017 — May 2019

Research Areas:

INTERNATIONAL TRADE, QUANTITATIVE GEOSPATIAL AND SOCIAL SCIENCE, NETWORKS

Working Papers

- “Fixed-effect estimates of trade cost elasticities with time-varying socioeconomic distance”
- “Deriving bilateral geospatial and socioeconomic distances between countries” (Co-authored with Elizaveta Gonchar)
- “Welcome to Pandora! A neural-network and remote-sensing approach to measuring changes in capital investment and infrastructure in geopolitical borderlands following reductions in trade barriers.”
- “Gravitational networks in international trade”
- “The Economy and the Environment: A global analysis of the impact of regional economic growth on environmental conditions.”

Indiana University - Bloomington

M.A., ECONOMICS

Bloomington, IN

August 2015 — January 2018

- Studied financial networks and contagion effects related to the 2007 financial crisis (Dr. Frank Page Jr., Rui Gong)
- Studied econometric theory, emphasis on asset pricing fundamentals (Dr. Joon Park, Dr. Yoosoon Chang, Dr. Robert Becker)
- Studied macroeconomic growth and forecasting (Dr. Eric Leeper, Dr. Amanda Michaud, and Dr. Todd Walker)

Barcelona School of Economics

M.Sc., ECONOMICS AND PUBLIC POLICY

Barcelona, Spain

August 2014 — July 2015

- Thesis: The Effects of Pico y Placa Driving Restrictions on Pollution in Quito, Ecuador

University of North Carolina - Chapel Hill

B.A., ECONOMICS

Chapel Hill, NC

August 2010 — May 2014

London School of Economics

SUMMER SCHOOL PROGRAM

London, United Kingdom

July 2013 — August 2013

Skills

Quantitative

- Core mathematics for Ph.D.-level economists: **Multivariate calculus**, linear algebra, **analysis**
- Advanced statistics: **Multivariate and Bayesian statistics**, **structural equation modeling**, factor analysis
- Econometrics: **Spatio-temporal**, Cross-sectional, Time-series, and **Panel-data** methods
- Financial: Macroeconomic forecasting, **linear programming for asset pricing**, **financial econometrics**
- Semi-qualitative methods: Natural language processing, **Sentiment analysis**, **Raster-based data processing**
- Discrete Mathematics: **Discrete network mathematics**, point-free topology

Programming

- **STATA**, **Python**, **R**, **Julia**, SQL (PostgreSQL), Javascript (limited to Google Earth Engine scripting)
- Learning **C++**, **Python** (PyTorch)

Visualization Tools

- **Adobe** (**Illustrator**, InDesign, **Photoshop**), **Unreal Engine 5** (GUI and Blueprinting proficient, C++ novice), Blender

Geospatial Tools

- **ArcGIS Pro**, ArcGIS Desktop, ArcGIS Online, ESRI Storymaps, **QGIS**, **Erdas IMAGINE**, **Google Earth Engine (GEE)**

Languages

- English - Native proficiency
- Spanish (Castilian) - Limited working proficiency,
- Russian - Elementary proficiency
- Ukrainian - Learning

Media Production

- Single- and Multi-track Editing: Adobe Audition, Ableton Live
- Video Editing: Adobe Premier Pro, Camtasia
- Music Creation and Sound Engineering: Teenage Engineering OPz (hardware),
- Live Broadcasting: Open Broadcaster Software (OBS)

Hobbies

- Learning new things, traveling, music creation and production, sketching, photography.

Experience

Campus

Online Educational Firm

INSTRUCTOR

July 2022 —Present

- Designed undergraduate-level courses in Microeconomics and Macroeconomics
- Teaching collegiate microeconomics in an online startup educational environment
- Built and piloted interactive digital teaching methods, focused on collaborative “center-out” teaching and formative assessments
- Successfully taught students with no prior exposure to economics or algebra to use calculus concepts and solve constrained consumer optimization problems, identify Nash equilibria in two and three-party simultaneous games, and estimate firms’ optimal responses to real geopolitical economic shocks

Georgia Institute of Technology

Atlanta, GA

INSTRUCTOR OF RECORD

Summer 2020 + Spring 2021

- Designed and taught asynchronous sections of ECON 2100 and ECON 2106 online.

GRADUATE TEACHING ASSISTANT

August 2017 —Present

Assisted in teaching duties for the 8 different courses across 11 semesters.

- Econ 2100 —Economic Analysis and Policy Problems
- Econ 2105 —Introduction to Macroeconomics
- Econ 2106 —Introduction to Microeconomics
- Econ 3110 —Advanced Macroeconomics
- Econ 4180 —Game Theory
- Econ 4357 —Law and Economics
- Econ 4520 —Economics of Sports
- Econ 7023 —Ph.D. Econometrics II

Duke University - Fuqua School of Business —GEMBA Program

Durham, NC

ASSOCIATE IN RESIDENCE & TEACHING ASSISTANT

August 2016 - May 2017

- Worked directly with the Associate Dean, Dr. Jeremy Petranka
- Graded material for, and assisted with, courses in the Global Executive Masters of Business Administration program.
- Assisted Dr. Petranka with the following courses: *Foundations of Strategy*, *Managerial Economics*, and *Global Markets and Institutions*

Indiana University

Bloomington, IN

GRADUATE TEACHING ASSISTANT

August 2015 - May 2016

Assisted in instruction, recitation, and grading for the following courses:

- Econ-E 201 —Introduction to Macroeconomics (Dr. James Self)
- Econ-E 327 —Game Theory (Dr. Robert Becker)
- Econ-E 425 —Financial Economics (Dr. Robert Becker)

Assisted faculty in development of the following courses:

- Econ-E 490 —Advanced Undergraduate Seminar in Economics - Network Economics (Dr. Frank Page Jr.)
- Econ-E 502 —Teaching Undergraduate Economics (Dr. Jimmy Walker)

Extracurricular Activity

Omicron Delta Epsilon

INTERNATIONAL HONORS SOCIETY FOR ECONOMICS

August 2019 —Current

Executive Member, Georgia Institute of Technology chapter (2021—Current)

Georgia Institute of Technology

Atlanta, Georgia

VICE PRESIDENT OF CAMPUS SERVICES

May 2019 —May 2020

- Coauthored a white paper concerning links between graduate student financial security, performance, and health outcomes.
- Assisted University administrators develop strategies to take instruction fully online at the start of the COVID-19 pandemic.
- Worked with Parking and Transportation Services to develop strategies for adopting an all-electric campus public transit fleet
- Served on the Faculty Benefits Committee, Parking and Transportation Action Committee (PTAC), and as the graduate student liaison for Residential Services, Dining Services, Auxiliary Services, and Campus Facilities

GRADUATE SENATOR

August 2018 —July 2020

- Represented the department of economics (2018-2019).
- Appointed an honorary senator at large (2019-2020).
- Spearheaded graduate student mental health initiatives that lead to the establ
- Aided in the development of plans to transition Georgia Tech to an online education model during the COVID-19 pandemic.

- Designed digital education curricula for university-level instructors.
 - *Focal Points:*
 - ★ Improving student engagement in large lectures through interactive and formative assessment.
 - ★ Modernizing assessment techniques.
 - ★ Interactive multimedia and engagement techniques in mixed-format classrooms.
- Designed integrative digital classroom constructs for higher education.
- Organized and Led the 2019 Teaching Assistant (TA) orientation program for 100 + new and returning teaching assistants and instructors.

Honors & Awards

2020	Senator of the Year , Georgia Institute of Technology, Graduate Student Government	<i>Atlanta, GA</i>
2017	Economics and Business Tutor of the Year , Indiana University - Bloomington Tutors	<i>Bloomington, IN</i>
2015	Finalist - Public Policy Thesis Competition , Barcelona School of Economics, Class of 2015	<i>Barcelona, Spain</i>
2014	Special Recognition for Services to the School , Chancellor Carol L. Folt, UNC Chapel Hill	<i>Chapel Hill, NC</i>
2011	Keynote Speaker (Multimedia and Digital Pedagogy) , Savannah Conference on Informational Literacy	<i>Savannah, GA</i>
2007	Instructor, 3rd Degree Black Belt , Sin Moo HapKiDo	<i>Fayetteville, NC</i>

Working Papers

Additional Projects in Economics

- *Theoretical Applications of Multispectral and Synthetic-Aperture Radar Data for the Analysis of Sub-Regional Economic Growth* (2022)
- *Socioeconomic-Weighted Centroids and Related Bilateral Distance Matrices* (2021)
- *Chromatic Numbers in International Trade* (2020)
- *Structural Estimation of the Shadow Economy: Considerations for Development* (2019)
- *The Impact of Pico Y Placa Driving Restrictions on Pollution in Quito, Ecuador* (2015)

Geospatial Information Science and Technology (GIST) Research

- *Impact Analysis of the Russian Invasion on Ukrainian Agriculture* (2022)
- *Environmental Impact Analysis of Chinese Direct Investment and Infrastructural Development in Rural Guyana* (2022)
- *Urban Economic Profile of the English Avenue Neighborhood in Atlanta, Georgia* (Co-authored with Elizaveta Gonchar and Jun Wang, 2021)
- *Impact of Ukrainian Canal Closure on Vegetation Along the Crimean Peninsula* (Co-authored with Elizaveta Gonchar, 2019)

Political Science Research

- *Spatial-Voting Theory, Socioeconomic Polarization, and the Rise of the Populist Radical Right in Europe* (2014)
- *Pseudo-Democratic Institutions and Domestic Political Instability: A Game Theoretic Approach to Analyzing Political Violence Trends in Proto-Democratic States* (2013)
- *U.S. Special Operations —Global 2020 Outlook* (Contributor, 2012)