Roy Gernhardt: Labor and Development Economist

Select Work Experience

- Spring 2025 (Upcoming/Ongoing) Northeastern University *Instructor of Record*
  - *Microeconomic Theory:* One 4 credit-hour class, in person.
- Summer 2024 Northeastern University *Instructor of Record*
  - *Principles of Micro:* One 4 credit-hour class, Online Asynchronous
  - *Principles of Macro:* One 4 credit-hour class, Online Asynchronous
    - Mean Teacher Rating And Course Evaluation (TRACE Survey) **performance above department and university means in 5 of 5 categories**
    - TRACE question: "What is your overall rating of this instructor's teaching effectiveness?" Score **4.86/5.** Compared to Department mean of 4.4 and University mean of 4.5
    - Ratemyprofessors.com: **Quality: 5/5. 100% would take again.** "Caring" **"Amazing Lectures"** "Gives Good Feeback"
- Spring 2024 Northeastern University, Mike Stone *Teaching Assistant*
  - *Principles of Micro:* Four 1 credit-hour recitations, in person.
- Fall 2023 Northeastern University, Frank Georges *Teaching Assistant*
  - *Principles of Micro:* Four 1 credit-hour recitations, in person.
- Summer 2022 through Spring 2023 Northeastern University, Alicia Sasser-Modestino Research Assistant
  - *Boston Summer Youth Employment*
    - Helped manage large internal dataset of ca. 4000 employees according to **strict PII protocols**
    - 2022 **JPAL Research Staff Training**
    - Managed **design**, **deployment**, and **analysis** of employee **surveys** before and after participation as well as parent and institutional participation surveys
- Spring 2022 Northeastern University, Gustavo Vincentini / Jill Dupree *Teaching Assistant*
  - *Principles of Micro: Grader*
  - *Economics of Conflict: Grading, **Test Design**, and **Substitute Lecturer** when Professor Dupree was out of the country on a planned University event*
  - *American Economic History: **Substitute Lecturer** when Professor Dupree was out of the country on a planned University event*
- Fall 2021 Northeastern University, Frank Georges *Teaching Assistant*
  - *Principles of Micro:* Four 1 credit-hour recitations, hybrid in person/online
- Spring 2021 Northeastern University, Frank Georges *Teaching Assistant*
  - *Principles of Micro:* Four 1 credit-hour recitations, hybrid in person/online
- Fall 2020 Northeastern University, Mike Stone *Teaching Assistant*
  - *Principles of Micro:* Four 1 credit-hour recitations, hybrid in person/online
- Spring 2020 Northeastern University, Silvia Prina *Research Assistant*
  - Assisted on project that became the *Government Shutdown and SNAP Disbursements* paper. **Quickly promoted to coauthor.**
- Fall 2019 Northeastern University, Jill Dupree *Teaching Assistant*
  - *Intermediate Macro: **Problem Set Design**, Grading*
- 2013-Present First Church of Christ, UCC Sandwich, MA *Music Minister*
  - **Manages a department** of 1 staff and ca. 40 volunteer musicians and technicians

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Publications, Presentations, and Works in Progress

- **"White Flight in the 21st Century" – In Progress.** Anticipated Journal Submission March 2025. Presented October 3 2023 and April 24 2023 at Northeastern University Economics PhD Workshop
  Abstract: I use a national dataset of U.S. elementary school student demographics to show that White Flight - the accelerating emigration of whites from demographically mixed neighborhoods - was still an important dynamic in the first two decades of the 21st century. On average, white schools reached the `tipping point' - the point at which net white exodus begins and accelerates - at a white share around 95%. Leveraging Mediated Intergroup Contact (MIC) theory and the Obama campaign as a natural experiment, I provide causal evidence through a difference-in-differences approach that MIC measurably reduced the intensity of white flight. This finding challenges the idea that racial preferences may no longer be an important driver of segregation patterns. It highlights the persistent influence of structural and cultural racism in residential mobility. I exploit the theory of Mediated Intergroup Contact to give a lower bound to the impact of anti-black prejudiced stereotypes on White Flight. At the mean white share of 57.5%, 2.2% of white elementary school students will flee the school in the following year. The proportion of this effect attributable to anti-black prejudiced stereotypes can be conservatively lower bounded at 23.6%.

- **"Government Shutdown and SNAP Disbursements: Effects on Household Expenditures" – June 26 2024,** *Review of Economics of the Household*. Coauthored with Mindy Marks, Silvia Prina. Presented January 8 2022 at LERA/ASSA
  Abstract: We test the ability of SNAP eligible households to respond to a temporary change in benefit timing. We exploit the 2018–2019 US government shutdown in which all states were federally mandated to pay February SNAP benefits in January. This created a short-term windfall (two payments very close to each other) followed by a longer than normal gap during which no SNAP disbursements were received. Using a triple differences approach, we show that expenditures are lower in February (relative to other months) 2019 (relative to 2018) for SNAP recipients (relative to near-eligible households). We complement this finding by exploiting preexisting state-level differences in disbursement schedules that drove some states to temporarily alter the timing of the 2019 March and April SNAP disbursements. Diff-in-diff estimates show that SNAP eligible households in those states reduced spending. Our findings are inconsistent with the permanent income hypothesis and suggest that the timing of benefits matters for household consumption.

- **"Fleeing School Choice" – In Progress. Coauthored with Mindy Marks, Silvia Prina.** Anticipated Journal Submission Spring 2025. Presented October 3 2024 at Northeastern University Economics PhD Workshop
  Abstract: Our paper uses an event-study approach to show that lottery-based school choice programs which do not guarantee seats in local schools encourage high income families to emigrate from those school districts. Incomes in affected cities among households with affected children decrease by 8.0%.

- **"Leveraging AI in Economics Education: A Pedagogical Case Study" In Progress. Coauthored with ChatGPT 4o, a Large Language Model deployed by OpenAI.** Anticipated Journal Submission January 2025.
  Abstract: We explore the integration of artificial intelligence (AI) as a pedagogical tool in undergraduate economics education, specifically in fostering critical thinking and conceptual understanding. Over the course of a summer session in 2024, students participated in a series of AI-driven projects designed to encourage deep exploration of economic principles such as those proposed by Adam Smith, John Maynard Keynes, and modern economic frameworks. The methodology involved a structured conversational approach where students engaged in dialogue with the AI, using a keyword-based game to initiate the interaction, followed by deductive synthesis and open-ended discussions. Preliminary findings suggest that AI-assisted conversations not only reinforced learning outcomes but also potentially helped bridge the gap between rote memorization and critical analysis.

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This case study aims to provide a foundation for future research on the role of AI in higher education and its potential to augment the classroom experience.

- ▶ *Climbing Out* – **In Progress. Long Format**
- ▶ **Abstract**: Using autobiographical and qualitative arguments, I make an appeal for an extension to the beta-delta model of hyperbolic discounting. The modified model describes rational decisions made when households are under conditions of exigency and duress and does not require assumptions of "irrationality" driven by cognitive load or other behavioral economic mechanisms. The model can help counter disparaging narratives and normative judgements against poor households and may be useful by practitioners in identifying households qualified to receive economic interventions.

- ▶ *The Faetus, The Fat Man, and The Trolley: An Elegy for the End of Days* – **In Progress. Long format**
  Abstract: I explore a classic ethical dilemma at the root of US political polarization and the important and disturbing parallels it generates between today's political and religious discourse and the public discourse surrounding the buildup to the American civil war.

- ▶ **"On the Equivalence of Neural and Production Networks"** – **https://arxiv.org/abs/2005.00510. November 2021. Coauthored with Bjorn Persson**
  Abstract: This paper identifies the mathematical equivalence between economic networks of Cobb-Douglas agents and Artificial Neural Networks. It explores two implications of this equivalence under general conditions. First, a burgeoning literature has established that network propagation can transform microeconomic perturbations into large aggregate shocks. Neural network equivalence amplifies the magnitude and complexity of this phenomenon. Second, if economic agents adjust their production and utility functions in optimal response to local conditions, market pricing is a sufficient and robust channel for information feedback leading to macro learning.

Relevant Education

- ▶ 2019-Present **Northeastern University**, ABD in Labor and Development Economics, Expected PhD completion: January 2025.
- ▶ 2015-2018 **Boston University**
  - o M.A. Economics
  - o B.A. Economics and Mathematics
  - o Minor in Computer Science
  - o Minor in Physics (focus on computational physics)

Skills

- ▶ Pedagogy
  - o Skilled and engaging lecturer
  - o Course Design
  - o One-on-one mentorship
  - o AI in Pedagogy
  - o Micro, Macro Principles and Theory.
  - o Game Theory
  - o Poverty and Conflict
  - o Development

- o Labor
- ▸ Data & Econometrics:
    - o Extensive and expert use of STATA, R
    - o Data security and privacy / PII
    - o Custom programmed statistical algorithms (e.g. bootstrap/jackknife, Multiple OLS) in C++ and SQL.
    - o Experience with large datasets (e.g. Nielsen Consumer Panel, about 11M observations per year)
    - o Experience with PII protocols (e.g. Boston Summer Youth Employment Program)
- ▸ Programming:
    - o Expert in algorithms, complexity theory, and optimization.
    - o Languages include: C++, C, Fortran, Java, Python, Julia, Visual Basic, PHP, SQL, Octave, R.
    - o Web scraping in several languages
- ▸ Machine Learning / AI:
    - o Custom implementations of Feedforward Neural Networks
    - o Constructive Neural Networks
    - o Bayesian Machine Learning
    - o K-means Clustering
    - o Dimensionality Reduction through Principle Component Analysis
    - o Support Vector Machines, Recommender Systems.
- ▸ Graphing Software:
    - o Excel
    - o Adobe Illustrator