

J.J. NADDEO | Curriculum Vitae

✉ jnaddeo@gmail.com • ☎ 856-745-1522
 Website • [GitHub](#) • [LinkedIn](#) • [Twitter](#)

CURRENT POSITION

Postdoctoral Fritz Family Fellow

This fellowship position was designed to cultivate the next generation of leaders with expertise in the social impacts of technology and build a network of individuals who learn from and support each other's work. I work in collaboration with [Michael Bailey](#) at the [Massive Data Institute](#) at Georgetown's McCourt School of Public Policy and [Neel Sukhatme](#) at the [Institute for Technology Law & Policy](#) at Georgetown University's Law Center on multiple projects that aim to broaden our understanding of the criminal legal system and its impact on society.

EDUCATION

GEORGETOWN UNIVERSITY

PhD in Economics

Dissertation title: Essays in Political Economics and Crime

May 2022

Washington, D.C.

RUTGERS UNIVERSITY- CAMDEN

Bachelor of Arts in Economics and Math

GPA: 4.0, summa cum laude

May 2016

Camden, NJ

RUTGERS UNIVERSITY- CAMDEN

Bachelor of Science in Physics

GPA: 4.0, summa cum laude

May 2015

Camden, NJ

JOB MARKET PAPER

RACE, CRIMINAL HISTORY, AND PROSECUTOR CASE SELECTION: EVIDENCE FROM A SOUTHERN U.S. JURISDICTION

Draft coming soon!

Abstract:

State prosecutors are powerful actors who handle most criminal cases in the United States. Furthermore, they are located at the core of the criminal justice pipeline, which runs from arrest to sentencing, and produces large persistent racial disparities. Given their centrality and influence, it is important to understand how prosecutors exacerbate or mitigate these disparities. This paper uses administrative data developed in collaboration with a prosecutor's office located in a medium-sized jurisdiction in the southern United States. Using both descriptive and causal methods, I find that prosecutors are complex actors that are potentially aware of upstream biases that taint signals they receive. Specifically, I leverage quasi-random assignment of cases to prosecutors and a simple—yet novel—model to show that prosecutors discount how prior convictions map into punishment for Black individuals relative to White individuals. My results suggest policies aimed at removing prosecutorial discretion or “blinding” prosecutors from knowing the race of an individual may have unintended consequences.

EXPERIENCE (RESEARCH & INDUSTRY)

RESEARCH PARTNER

Justice Innovation Lab

Oct 2021 -
Washington, D.C.

- Worked in a team of data engineers and scientists in collaboration with administrative staff to develop an "Extract, Transform, and Load" (ETL) pipeline that increased accuracy of data significantly
- Performed econometric analyses and translated into policy-relevant insights for prosecutors
- Co-authored multiple public-facing reports that received media coverage from multiple local news outlets and newspapers (see [here](#) and [here](#))
- Used cutting-edge machine learning methods with high-quality survey data to build highly predictive models of drug use and drug sales. Applied models to synthetic population linked to geolocated arrests and foot traffic derived from high-frequency cell phone data to study spatial patterns in drug arrests and racial composition of census block groups

ECONOMIST/DATA ANALYST

Free Our Vote

May 2022 -
Washington, D.C.

- Scraped, merged and analyzed large data sets to identify individuals impacted by recent changes to laws regarding voting rights
- Used machine learning models in Python to infer the race of individuals by name using models trained on Census, Wikipedia, and other data sources
- Prepared IRB approved pre-analysis plan for randomized control trial aimed at understanding what types of information increases voter participation of individuals previously disenfranchised due to prior criminal convictions.
- Wrote code to block randomize treatment over multiple arms, tested the balance between observables, and performed a power analysis that allowed us to know the size of effects our experiment was able to detect.

DOCTORAL FRITZ FAMILY FELLOW

Massive Data Institute <> Institute for Tech Law & Policy @ Georgetown Univ.

Oct 2021 - May 2022
Washington, D.C.

- Conducted novel research in political economy and crime and economics in fulfillment of my Ph.D. in Economics
- Participated in a mentoring program where I supervised multiple MDI Scholars (masters and undergraduate students in data science and public policy)
- Presented work at annual conferences
- President/Organizer of Economics Graduate Student Organization (EGSO), organized seminars, secured funding for networking events and workshops on geographic information systems (GIS) and machine learning.

CONSULTANT

Equal Rights Center

Jan 2022-Apr 2022
Washington, D.C.

- Created an automated bot using [RSelenium](#) to automatically apply for all job openings in the country. These data were then used to conduct correspondence tests for racial discrimination in hiring practices.
- Recorded email, call, and text responses from employers using [Twilio](#) (a programmable communication platform) to applications and compiled a novel data set. I then led the econometric analysis to show evidence of racial discrimination, which was featured in an official report.

CONSULTANT

World Bank

Jan 2020
Washington, D.C.

- Improved code base that harmonized national labor force survey data in Vietnam and Thailand
- Compiled descriptive statistics and conducted econometric analyses that were included in report [here](#)

RESEARCH ASSISTANT

Georgetown University

Sept 2018-May 2022
Washington, D.C.

Provided research assistance for Laurent Bouton, Arik Levinson, and Ben Solow on multiple projects.

RESEARCH ASSISTANT/RESEARCHER

Rutgers University-Camden

Sept 2013-Sept 2016
Camden, NJ

- Worked in Bacterial Cell Biology Lab (biology department) and the Laser Materials Interactions Lab (physics department)
- Designed standard operation procedure for the laser material interaction lab
- Mentored junior lab members and led multiple projects
- Co-authored multiple published papers, lead author on review article
- Presented work at international conferences

WORKING PAPERS (CURRENT VERSIONS [HERE](#))

DE-PROSECUTION AND DEATH: A COMMENT ON THE FATAL FLAWS IN HOGAN (2022)

co-authored with [Jacob Kaplan](#) and [Tom Scott](#)

- Replicate and critique of De-prosecution and death: A synthetic control analysis of the impact of de-prosecution on homicides by Thomas Hogan in Criminology & Public Policy
- Independently collected data and showed that results were not robust to certain modeling assumptions
- Under review at [Aletheia](#), an open source peer reviewed platform
- All replication data and code [here](#)
- See Mr. Hogan's responses [here](#)

IT'S ALWAYS SUNNY IN POLITICS

co-authored with [Carolina Concha-Arriagada](#)

- Create novel data that include net short-wave radiation (sunshine accounting for atmosphere), precipitation, and voting behavior at the county level for 1948-2016.
- Find empirical evidence that voters are more willing to choose riskier candidates when exposed to more sunshine
- Develop parsimonious model that organizes empirical results and implies additional empirical tests
- Under review at [Aletheia](#), an open source peer reviewed platform

USING RAIN FOR ELECTORAL GAIN: EVIDENCE FROM FEMA'S PUBLIC ASSISTANCE PROGRAM

- Construct novel dataset by processing precinct-level election results and pixel-level weather data using GIS methods
- Find empirical support for model in which political competition distorts public funds

WORKS IN PROGRESS

POLICE RESPONSE TO PROSECUTORIAL POLICY

joint with [Don Braman](#), [Felix Owusu](#), [Rory Pulvino](#), and [Kevin Wilson](#)

- Study trends in monthly traffic stops/searches before and after a prosecutorial policy that refused to prosecute cases generated by pre-textual stops (e.g. stops for broken taillights)
- We find preliminary evidence that police stops decreased 40% and searches decreased 20%
- We find that the effect is larger for police departments that publicly supported the policy versus those that publicly did not support the policy
- Future plans to investigate spatial heterogeneity, how prosecutors themselves responded, as well as the impact on local citizen-initiated calls for service

WHAT ENCOURAGES RETURNING CITIZENS TO VOTE? MEASURING THE IMPACT OF DIFFERENT FORMS OF VOTER OUTREACH IN IOWA

joint with [Alex Billy](#) and [Neel U. Sukhatme](#)

- Randomized control trial to measure how outreach using traditional mailers—a commonly used but expensive method for voter outreach—compares with outreach using social media and mixed social media/opt-in SMS campaigns
- Developed and pre-registered pre-analysis plan on [AEA](#)

PEER EFFECTS IN JAIL

joint with [Angelo Diaz Reyes](#)

- Use random cell assignment of individuals detained in jail to measure how exposure to different types of cellmates impacts future criminal activity as well as labor market outcomes
- Developing survey instrument to learn from individuals in jail

IMPACT OF SCREENING ON EARLY DISMISSALS

- Leverage variation generated by pilot screening unit in medium sized southern jurisdiction
- Find screening increases early dismissal rates for Black defendants, while not impacting rates for White defendants

RANKING CRIME TYPES USING COMBINATORIAL HODGE THEORY AND SURVEY DATA

joint work with [Kevin Himberger](#)

- Developed and implemented a survey to approximately 30 assistant prosecutors in medium jurisdiction regarding the prioritization of crime types
- Coded HodgeRank algorithm to get back global consistent ranking
- Built python package [rankpy](#) to implement HodgeRank algorithm

UNIONIZATION, LABOR MARKET POWER, AND WAGE INEQUALITY

joint work with [Laurent Bouton](#), [Ben Solow](#), and [Lee Tucker](#)

- Harmonize 30 years of NLRB election data across multiple sources to conduct econometric analyses

TEACHING EXPERIENCE (MORE DETAILS [HERE](#))

MASSIVE DATA INSTITUTE

Nov 2022

Washington, D.C.

Multi-day Workshop: Modeling Propensity to Use or Sell Drugs at the Block Group Level

GEORGE WASHINGTON UNIVERSITY LAW SCHOOL

Nov 2021

Washington, D.C.

Guest lectures on "Data-Driven Criminal Justice Reform".

GEORGETOWN UNIVERSITY

Instructor of Record, Department of Economics

Jun 2016-Dec 2020

Washington, D.C.

- [CORE](#) Teagle fellow
- Developed novel course using [CORE](#) curriculum for Introduction to Macroeconomics (Summer 2018/2019)
- Used coding (R and MATLAB) to help understand the concepts of dynamic programming and econometrics for PhD Math camp (co-taught with [Peter Caradonna](#))

GEORGETOWN UNIVERSITY

Teaching Assistant, Department of Economics

Sept 2017-Dec 2020

Washington, D.C.

Assisted in administering Introduction to Macroeconomics (Fall 2017) and Microeconomics (Spring 2018/Fall 2018/Spring 2019)

RUTGERS UNIVERSITY- CAMDEN**Instructor of Record, Department of Physics**

Developed course material and taught the following courses:

- Lasers and Laser Physics (50:750:305)
- Modern Physics (50:750:232)
- General Physics I and II
- Introduction to the Earth (50:460:101) (online)

Sept 2015-May 2016

Camden, NJ

RUTGERS UNIVERSITY- CAMDEN**Physics Lab Instructor, Department of Physics****Sept 2013-May 2016**

Camden, NJ

PUBLICATIONS

Moroz, H. E., Naddeo, J., Ariyapruchya, K., Jain, H., Glinskaya, E. E., Lamanna, F., Laowong, P., Nair, A., Palacios, R. J., Tansanguanwong, P., Viriyataveekul, S., Walker, T., and Yang, J. (2021). Aging and the Labor Market in Thailand : Labor Markets and Social Policy in a Rapidly Transforming and Aging Thailand. Technical report, World Bank Group, Washington, DC

Duffy, S., Naddeo, J., Owens, D. M., and Smith, J. (2021). Cognitive load and mixed strategies: On brains and minimax. SSRN Electronic Journal, pages 1–58

Tomko, J. A., Jimenez, R., Naddeo, J., Bubb, D. M., and O'Malley, S. M. (2018). Effects of laser polarization and linear surface features on nanoparticle synthesis during laser ablation in liquids. *Laser Physics*, 28(3)

Tomko, J., O'Malley, S. M., Trout, C., Naddeo, J. J., Jimenez, R., Griepenburg, J. C., Soliman, W., and Bubb, D. M. (2017). Cavitation bubble dynamics and nanoparticle size distributions in laser ablation in liquids. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 522:368–372

Ratti, M., Naddeo, J. J., Tan, Y., Griepenburg, J. C., Tomko, J., Trout, C., O'Malley, S. M., Bubb, D. M., and Klein, E. A. (2016). Irradiation with visible light enhances the antibacterial toxicity of silver nanoparticles produced by laser ablation. *Applied Physics A: Materials Science and Processing*, 122(4)

Naddeo, J. J., Ratti, M., O'Malley, S. M., Griepenburg, J. C., Bubb, D. M., and Klein, E. A. (2015). Antibacterial Properties of Nanoparticles: A Comparative Review of Chemically Synthesized and Laser-Generated Particles. *Advanced Science, Engineering and Medicine*, 7(12):1044–1057

Yamada, T., Chen, C. C., Naddeo, J. J., and Harris, J. R. (2015). Changing Healthcare Policies: Implications for Income, Education, and Health Disparity. *Frontiers in Public Health*, 3(August):3–6

Amin, M., Tomko, J., Naddeo, J. J., Jimenez, R., Bubb, D. M., Steiner, M., Fitz-Gerald, J., and O'Malley, S. M. (2015). Laser-assisted synthesis of ultra-small anatase TiO₂ nanoparticles. *Applied Surface Science*, 348:30–37

Tomko, J., Naddeo, J. J., Jimenez, R., Tan, Y., Steiner, M., Fitz-Gerald, J. M., Bubb, D. M., and O'Malley, S. M. (2015). Size and polydispersity trends found in gold nanoparticles synthesized by laser ablation in liquids. *Physical Chemistry Chemical Physics*, 17(25):16327–16333

Naddeo, J. J. and Bubb, D. M. (2015). Encyclopedia of Nanotechnology. In *Encyclopedia of Nanotechnology*, pages 1–6

O'Malley, S. M., Zinderman, B., Schoeffling, J., Jimenez, R., Naddeo, J. J., and Bubb, D. M. (2014). Nanosecond laser-induced shock propagation in and above organic liquid and solid targets. Chemical Physics Letters, 615:30–34

PRESENTATIONS

SOUTHERN ECONOMIC ASSOCIATION ANNUAL MEETING

Nov 2022

Fort Lauderdale, FL

Prosecutorial Discretion and Race in a Southern U.S. Jurisdiction

BEHAVIORAL AND EXPERIMENTAL ECONOMISTS OF THE MID-ATLANTIC

Nov 2022

Camden, NJ

It's Always Sunny in Politics

GEORGETOWN LAW & ECONOMICS WORKSHOP

Nov 2022

Washington, D.C.

Prosecutorial Discretion and Race in a Southern U.S. Jurisdiction

AMERICAN POLITICAL SCIENCE ASSOCIATION ANNUAL MEETING

Sept 2022

Montreal, Québec, Canada

***Declined due to paternity leave**

It's Always Sunny in Politics

SOUTHERN ECONOMIC ASSOCIATION ANNUAL MEETING

Nov 2021

Houston, TX

Using Rain for Electoral Gain: Evidence from FEMA's Public Assistance Program

MIDWEST ECONOMIC ASSOCIATION ANNUAL MEETING [CANCELLED-COVID-19]

Mar 2020

Chicago, IL

Using Rain for Electoral Gain: Evidence from FEMA's Public Assistance Program

BEHAVIORAL AND EXPERIMENTAL ECONOMISTS OF THE MID-ATLANTIC

Oct 2019

Philadelphia, PA

Political Determinants of Public Spending at the State Level: Evidence from FEMA's Public Assistance Program

CONFERENCE ON LASER ABLATION

Aug 2015

Cairns, Australia

Influence of Cavitation Bubble Dynamics and Laser Fluence on Particle Size in Pulsed Laser Ablation in Liquids

CONFERENCE ON LASER ABLATION [POSTER]

Aug 2015

Cairns, Australia

Light Induced Toxicity of Silver Nanoparticles Produced by Laser Ablation

NJ SPACE GRANT CONSORTIUM SUMMER RESEARCH CONFERENCE

Aug 2015

New Brunswick, NJ

Light Induced Toxicity of Silver Nanoparticles Produced by Laser Ablation

GLOBAL HEALTH RESEARCH SYMPOSIUM [POSTER]

Jun 2015

New Brunswick, NJ

Light Induced Toxicity of Silver Nanoparticles Produced by Laser Ablation

SOCIETY OF PHYSICS STUDENTS ZONE 3 MEETING [POSTER]

Apr 2015

Newark, DE

Light Induced Toxicity of Silver Nanoparticles Produced by Laser Ablation

MICROBIOLOGY SYMPOSIUM [POSTER]**Jan 2015**

New Brunswick, NJ

Light Induced Toxicity of Silver Nanoparticles Produced by Laser Ablation

CELEBRATION OF UNDERGRADUATE RESEARCH & CREATIVE ACTIVITY [POSTER]**May 2014**

New Brunswick, NJ

A Study on the Formation of Bimetallic Nanoparticles Using Pulsed Laser Ablation in Liquids

CELEBRATION OF UNDERGRADUATE RESEARCH & CREATIVE ACTIVITY [POSTER]**May 2014**

New Brunswick, NJ

Antimicrobial Effects of Metal Nanoparticles

SKILLS

My current workflow uses [Github](#), [Anaconda](#), and [Azure Cloud Storage](#) to create self-contained projects that are version-controlled. I utilize submodules in Github to enable the usage of custom packages (in both Python and Stata) across multiple repositories (projects). Furthermore, I leverage [Overleaf's](#) Github synchronization to push data visualizations and tables directly into my academic writing. When coding, I work mainly with [Jupyter](#) notebooks in [Visual Studio Code](#) where I use the Python package [ipystata](#) to use Stata and Python simultaneously within the same notebook. I also routinely refactor my notebooks into modules that can be used across multiple notebooks, increasing the reproducibility and integrity of my analyses. For collaboration purposes, I have experience using [Databricks](#) and Github's [Codespaces](#) to share virtual work spaces. I also have access to a high-powered personal computer and multiple different cloud computing resources to work with "big data" and complex models.

PROGRAMMING LANGUAGES

Experienced: Stata | Python

Familiar: R | Julia | Matlab

FRAMEWORKS & TOOLSGit | ArcGIS | Qualtrics | Jupyter | VSCode | Mendeley | \LaTeX

REFERENCES (ALPHABETICAL, LETTERS UPON REQUEST)

Prof. Laurent Bouton

Main Advisor

Georgetown University
Department of Economics
37th and O Streets, NW
Washington, D.C. 20057

☎ +1 (202) 687-6113

✉ boutonllj@gmail.com

Prof. Garance Genicot

Georgetown University
Department of Economics
37th and O Streets, NW
Washington, D.C. 20057

☎ +1 (202) 687-7144

✉ garance.genicot@georgetown.edu

Jared Fishman <> Rory Pulvino

Executive Director <> Director of Analytics
Justice Innovation Lab
3220 17th St NW
Washington, D.C. 20010

☎ +1 (405) 517-3339

✉ rory.pulvino@justiceinnovationlab.org

Prof. Neel Sukhatme

Georgetown University
Law Center and
McCourt School of Public Policy
Eric E. Hotung Law Bldg.
Washington, D.C. 20057

☎ +1 (202) 662-4035

✉ neel.sukhatme@gmail.com