

# Daniel Nikolic

(480) 273-3317  
dnikolic1217@gmail.com

Chapel Hill, North Carolina  
[LinkedIn](#)

Research-oriented statistical programmer with experience working on both ends of the data pipeline - providing effective analytics and efficient data processing in a variety of settings and subject matters including health, banking, and networks. Recent Economics Master's graduate with expertise in simulation and modeling looking for opportunities to make business impact.

- Data Wrangling
- Statistical Analysis
- Technical Communication
- Econometric Modeling
- R, Python, and SQL
- Healthcare Data and Research

## EXPERIENCE

### Senior Data Analyst

2022 — 2023

*BlueLabs*

- Worked on behalf of the Centers for Medicare and Medicaid Services (CMS) to increase enrollment into Medicare Savings Programs (MSP).
  - Developed expert knowledge of CMS data systems, including healthcare claims and beneficiary program participation.
  - Part of a team to predictively model MSP eligibility for over 50 million Medicare beneficiaries, involving ETL of individual-level data as well as commonly used public datasets.
  - Used geocoded information to produce customizable outreach instruments for targeted beneficiaries, with an emphasis on high-quality outreach to maximize success rate.
  - Contributed to the analysis of outreach effectiveness, including creating a shared understanding of the challenges to inference in an encouragement design study and addressing our ability to measure outcomes within CMS-sourced data.
  - Collaborated with multiple organizations and contractors in a high-production agile environment.
- Authored an analysis of preventive services using CMS claims data for all Medicare beneficiaries. I studied the second-order effects of obtaining a preventive service, co-movement among different types of preventive service, and I detailed the main identification issues surrounding the topic. The report is now being used as an input in multiple CMS initiatives regarding preventive care.

### Research Assistant/Teaching Assistant/Instructor

2018 — 2022

*Department of Economics, University of North Carolina at Chapel Hill*

- Research assistant for Dr. Gary Biglaiser and Dr. Özlem Bedre-Defolie from 2020 to 2022
  - Generated model simulations and performed case studies of theoretical results in a variety of applications, for paper "Platform Competition for Exclusivity with a Marquee Seller"
  - Gained subject matter knowledge for project "Digital Platforms: Pricing, Variety and Quality Provision" through literature reviews on licensing, bundling, platform competition, and the latest evolving regulations on digital platforms
- Teaching assistant for "Intermediate Microeconomics" from 2018 to 2022
  - Regularly lectured on major topics in microeconomics including consumer and firm theory, competition, and uncertainty
  - Timely grading and management of grade disputes for over 400 students each semester
- Instructor for "Undergraduate Econometrics" in Summer 2020
  - Developed course curricula
  - Taught statistical programming on live Covid-19 data to help track vaccination rates using government data
  - Pivoted to a fully remote class experience to cater to students living in quarantine across the world including China and Australia; one of the first UNC courses to do so
  - Empowered students to challenge real problems in their communities through mentorship of their summer research projects

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## Research Assistant / Payment System Studies

2016 — 2018

*Board of Governors of the Federal Reserve System*

- Managed data streams for Federal Reserve Payments Study, an authority on payment statistics in the U.S.
  - Designed and built anomaly detection models for identifying reporting errors leading to enhanced accuracy of final statistics; more than 10,000 errors were identified and resolved as a result
  - Sustained collaborative relationships with multiple contractors leading to improved use of existing and new data sources
  - Gained subject matter expertise in payment network processing, pricing, and competition
- Supported economists on payments-related research projects using novel datasets and newly developed econometric methods
  - Solved a missing data problem by developing a novel Python web crawler that scraped thousands of data points, saving about 3 months of FTE work
  - Built pipeline from raw unformatted PDF to storage into a self-designed SQL data warehouse
  - Delivered effective visualizations across project stages - data validation, empirical findings, model simulation results, and estimation performance
  - Automated output of 30+ econometric specifications and regularly communicated results in both technical and non-technical settings
- Trained over 40 Federal Reserve employees per year on programming in R and econometric analysis

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## MAJOR PROJECTS/ACTIVITIES

Papers authored<sup>†</sup>/coauthored<sup>††</sup>

[1]Pricing Regulation and the Incentive to Innovate: A Study of Value-Based Pricing in the Pharmaceutical Industry <sup>††</sup>	2022
[2]Menarche, Marriage Markets, and Educational Attainment <sup>††</sup>	2020
[3]Reputation and Barriers to Entry: Role of Seller Outside Option <sup>†</sup>	2019
[4]The Impact of the Durbin Amendment on Payment Card Transactions <sup>††</sup>	2018

- Graduate and Professional Student Government Senator, *University of North Carolina at Chapel Hill* 2019 — 2020
  - Represented the Economics Department; planned and hosted annual town hall meeting involving faculty and graduate students
- Development and teaching for course “Data Analysis and Financial Literacy in R”, *Howard University* 2016 — 2018
  - Created course material and taught for class created by Dr. Andrew Cohen at the Board of Governors; course caters to economics students who want to gain technical skill in programming in R, statistical analysis, and financial economic modeling

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## EDUCATION

**M.S. in Economics**, *University of North Carolina - Chapel Hill* May 2022

**B.S. in Business Economics**, *University of Arizona* May 2016

Relevant coursework: Mathematical Statistics (Master’s level), Econometrics (PhD level), Inequality Estimation (PhD level), Empirical Industrial Organization (PhD level), Simulation Modeling & Analysis, Data Analytics & Modeling, Real Analysis, Statistical Inference, Quantitative Financial Management

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## SKILLS

<b>Tools and Languages</b>	Proficient in R, PostgreSQL, Python, Git, Matlab, Stata, and $\text{\LaTeX}$
<b>Quantitative Research</b>	Mathematical optimization, Mathematical modeling, Data wrangling, Statistical analysis
<b>Communication</b>	Research writing, Academic instruction