Feda Mohammadi

Berea, KY | 859-972-5121 | mohammdif@berea.edu | GitHub | LinkedIn | Website

Education

Berea College – *Berea, KY* *Expected: May 2027*

B.S. Quantitative Economics & B.A. Mathematics, Minor: Computer Science | GPA: 3.86

Honors: Dean's List (All semesters), Tuition Promise Scholarship ($200,000), *The 2024 Diana Award*, Stanford Engineering Research Introductions (SERIS) Scholar'25, Ernest and Emily G. Graham Volunteer Service Award'24

Leadership: Berea Economics & Data Science Association - President (Aug 2025 - present), Berea College Motley Fool Investment Club Financial Analyst - Member (Jan 2024 - present)

Relevant Coursework: Data Structures and Algorithms, Software Design and Implementation, Applied Statistics, Econometrics I, Intermediate Microeconomics & Macroeconomics, Time Series Econometrics, Calculus I, Game Theory

Experience

Economics Teaching Assistant - Economics & Business Department – *Berea College* *Aug 2025 - Present*

- Mentored 30+ students during the lab in economic modeling, applied statistics, micro and macroeconomics, econometrics, and offered individualized guidance on data cleaning, visualization, and model interpretation
- Assisted students in STATA and R for econometrics coursework involving applied regression, multivariable regressions, instrumental variables, and panel data methods
- Graded coding and analytical assignments and delivered clear, constructive feedback, while also tracking attendance and monitoring patterns of misunderstanding to inform the instructor

Research Intern - Data Science for the Public Good Program – *Virginia Tech* *May 2025 - Aug 2025*

- Analyzed 3M+ county-level cost-of-living records to study the cost of living disparities across 133 Virginia counties using R, Census APIs, policy datasets, and statistical models
- Built and deployed an interactive RShiny dashboard (R, Leaflet, Plotly) to provide real-time cost estimates by family structure and support evidence-based program design for the Virginia Cooperative Extension
- Cleaned, merged, and engineered large multi-source demographic datasets (housing, food, transportation, healthcare, wages) and applied economic and statistical methods to evaluate local affordability patterns
- Presented findings at the Virginia Tech Undergraduate Research Symposium and communicated results to state and county stakeholders to inform policy designs and financial decisions

Founder & President - Afghan Scholars Academy (ASA) – *Remote* *Feb 2024 - Present*

- Founded an international youth-led nonprofit organization, raising $10,000+ in direct student aid through fundraising campaigns, and helped 3,600+ students banned from education in Afghanistan get free education
- Provided college mentorship programs, language learning classes, leadership trainings, and helped 150 students secure fully funded scholarships in the United States, Canada, Germany, and Ireland
- Led grant writing, oversaw curriculum development, program design, and performance evaluation to expand student impact, and secured partnerships with international NGOs

Empirical Research Projects

Virginia Cost of Living Dashboard – *Virginia Tech* *May - Aug 2025*

- Designed a full cost-estimation framework by combining county-level price indices, wage data (hourly, monthly, annual), and socioeconomic indicators to quantify affordability gaps across all Virginia counties
- Implemented a data pipeline in R using Census APIs, HUD FMR data, AAA transportation costs, KFF healthcare estimates, and local transit agency fare records; performed cleaning, harmonization, and variable engineering
- Estimated category-level expenses for housing, food, transportation, healthcare, childcare, taxes, elder care, technology, and miscellaneous costs using economic models and benchmark methodologies for six different family types
- Conducted statistical analysis to compare county cost indices with local wage distributions, identified wage–cost gaps and regional financial stress patterns among different age groups, and analyzed budget shortfalls for low-income families
- Produced accessible and replicable outputs and policy-relevant insights for state agencies and local stakeholders

MONEY OUT: The Driving Factors for Remittances – *Berea College* *Sep 2025 - Present*

- Built an econometric gravity model of U.S. remittance outflows to 97 countries using World Bank, UN, IMF, and Pew Research Center data, focusing on migrant stock, gender composition, age dependency, transaction costs, and receiving-country economic conditions such as GDP, unemployment, and inflation
- Cleaned, merged, and constructed cross-sectional country-level data in Stata, applied logarithmic transformations to highly skewed variables (remittances, migrant stock, GDP, distance), and created share-based measures to address collinearity
- Estimated and compared multiple OLS specifications, conducted joint F-tests and diagnostic checks (correlations, VIFs, White test), and identified the best model consistent with gravity theory
- Found that migrant stock is the strongest and most stable predictor of remittances, transaction costs significantly reduce formal remittance flows by 14%, and a one-percentage-point increase in the female share of migrants increases remittances by 4.3%, but inflation, exchange rates, and unemployment add little explanatory power

Skills

- **Languages & Tools:** R (tidyverse, dplyr, terra, Shiny), Python, Stata, Excel, Tableau, LaTeX, SQL, Git/GitHub
- **Data & Modeling:** OLS regression, Fixed Effects Models, Difference-in-Differences, Robust SEs, Geospatial Data, Data Cleaning & Feature Engineering, Descriptive & Inferential Statistics, Visualization (ggplot2, matplotlib)
- **Professional Skills:** Research communication, Collaborative teamwork, Attention to detail, Policy analysis
- **Conference Presentations:** Berea Undergraduate Research & Internship Symposium (Oct 2025), Kentucky Economics Association Annual Conference (Oct 2025), Virginia Tech Summer Research Symposium (Aug 2025), National Collegiate Research Conference, Harvard University (Jan 2026)