

Erica Ryan

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Education

University of Maryland, College Park, MD

Aug 20' - Present

Ph.D. Economics, Graduate Certificate in Fundamentals of Survey and Data Science

- GPA: 3.9
- Fellowships: NSF Graduate Research Fellowship - March 2020; Flagship Fellowship - March 2020
- Interests: Labor and Public Finance Economics with a focus on housing, poverty, inequality, taxes, labor market decisions, behavioral economics
- 2nd Year Paper: on the impact of rental market on former foster youth's homelessness shortly after exiting care

University of Maryland, College Park, MD

Aug 14' - May 18'

B.S. Economics, Magna Cum Laude; B.A. Studio Art, Magna Cum Laude, Honors

- GPA: 3.9
- Honors: Phi Beta Kappa, Design Cultures and Creativity Honors College (DCC), Dean's List Fall 14'-Spring 18'
- Scholarships: Maryland Delegate Scholarship 17'-18', Creative and Performing Arts Scholarship 17'-18'
- Relevant Coursework: Intermediate Micro/Macroeconomics, Behavioral Economics, Labor Theory, Development Economics, Game Theory, Econometrics with Time Series, Multivariable Calculus, Probability and Statistics, Linear Algebra
- Extracurriculars: Vice President of the Economics Association, Member of the Promoting Achievement and Diversity in Economics Fellowship, Member of the Math Club

Other Coursework

- Harvard Extension School: *Linear Algebra and Real Analysis (4.0 GPA)*

Sep 19' - Dec 19'

Research Experience and Other Employment

The Economics Department (UMD) College Park, MD

Jul 22' - Current

Research Assistant to Melissa Kearney

- Reviewing and summarizing over 30 papers on the impact of low birth rates in the U.S. and abroad.
- Producing descriptive statistics and charts in R to support presentations, papers, and proposals.

Ipso Facto Solutions Remote

Sep 21' - Current

Economist (Consultant)

- Quickly gaining expertise in a CECL model that adjusts loss allowance forecasts for forecasted macroeconomic conditions.
- Responding both in writing and verbally to questions from client banking institutions regarding the model
- Producing summary documents to support responding to client questions, and a response to the validation report, provided to all clients.
- Writing code in R to clean large-scale FNMA data, predict forbearance exits, and produce high quality tables and charts for the final paper in LaTeX.
- Running an R server on AWS EC2 and hosting data on S3; Using Recursive Feature Elimination to select variables and using random forest and linear models to estimate forbearance exits and compare performance.

Fannie Mae Washington, DC

Jun 18' - Sep 20'

Quantitative Analyst, Model Risk Management

- Researching the history of macroeconomic variables related to mortgage finance; reviewing the literature around the inclusion of unemployment in delinquency and default models; testing the inclusion/exclusion of macroeconomic variables in models; and preparing a presentation with recommendations for the Model Risk Oversight Committee
- Working on a team of up to five other reviewers on model reviews/revalidations, including evaluating component econometric models and their usages, methodologies, assumptions, and limitations; checking and running code; and writing a final review memo for 7-10 reviews per year.
- Applying machine learning techniques including random forest, gradient boosting, and neural networks to improve upon current models in model reviews, in a group project for a python reading group, and in a company sponsored hackathon.

Research Assistant

- Under Dr. Murrell: Collected and cleaned biographical data for over 150 judges of the English courts during the 16th and 17th centuries; tested and implemented imputation techniques for missing data to enable increased data utilization
- Under Sai Luo, a graduate student at UMD: Collected data on the annual volume of SAT test-takers per state; provided suggestions on alternative data sources including adding ACT data; improved and automated the data collection and cleaning process.

NASA Goddard *Goddard, MD*

Jun 17' - Aug 17'

Data Analytics Intern, Supply Chain Risk Management, Safety and Mission Assurance Division

- Compiled and analyzed data on over 750 NASA contracts and created data visualizations in Tableau of current supply chain relationships for two NASA missions.
- Presented a poster on my data analytics contributions to over 2,500 staff and interns at a Goddard Summer Intern Poster Session and at a Directorate-wide meeting.

The FDIC *Washington, DC*

May 16' - Aug 16'

Risk Analysis Intern, Anti-Money Laundering and Risk Analysis Branch, Risk Management Supervision

- Led a 3-person research group on Fintech relevant to banking and the FDIC that resulted in an unpublished paper and a briefing with the Director of the Risk Management Supervision.
- Performed a literature review on the creation of De Novo banks during the Great Recession which resulted in a list of questions and answers for a briefing of the Chairman of the FDIC.
- Synthesized 80 Reports of Examination into a single matrix of violations; independently analyzed and presented on trends by institution/region.

Software/Languages

- Proficient: R, Python, SAS, SQL, Tableau, LaTeX, Microsoft Excel, Adobe Creative Suite (Photoshop, Illustrator, Dreamweaver, Premiere, InDesign)
- Basic Knowledge: STATA, HTML, CSS, GIT, Matlab, AWS (EC2, S3)

Skills

Data Collection and Analysis

Project Management

Forecasting and Modeling

Technical Writing

Certifications

- Coursera:
 - Introduction to Machine Learning-Duke University
 - Neural Networks and Deep Learning-DeepLearning.ai
 - Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization-DeepLearning.ai
 - Structuring Machine Learning Projects-DeepLearning.ai
 - Convolutional Neural Networks-DeepLearning.ai
 - Sequence Models-DeepLearning.ai