

# RAMSEY ELLETHY

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## EDUCATION

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**University of Illinois at Urbana-Champaign**

Expected Graduation May 2025

Bachelor of Science in Econometrics and Quantitative Economics

Minor in Computer Science

## SKILLS

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**Programming:** Python, R, SQL, Excel, STATA,  $\LaTeX$

**Data & ML:** Pandas, NumPy, Scikit-Learn, PyTorch, Matplotlib, Seaborn

**Cloud & DevOps:** Google Cloud (BigQuery), Docker, Git

## EXPERIENCE

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**The Econ Data Lab**

Champaign, IL

*Undergraduate Researcher*

August 2024 - Present

- Conducting cross-national predictive modeling research to analyze the impact of living arrangements and sociodemographic factors on mental health among older adults
- Identified a 1.44x increase in the odds of depression for individuals living alone in China based on gender and economic status
- Performed classification machine learning using logistic regression, targeting CESD-10 depression screening results as the primary outcome variable
- Utilized Synthetic Minority Over-Sampling to address class imbalances in India survey collection, making predictors 4x more statistically significant

**Applied Technologies for Liberal Arts and Sciences**

Champaign, IL

*Intern, Business Process Improvement, ATLAS Internship Program*

May 2024 - August 2024

- Developed and deployed a digital record-keeping solution for the Division of Public Safety's i-PAWS program, streamlining efficient tracking of K-9 interactions and training
- Designed and implemented an optimized project intake workflow by mapping existing processes, identifying inefficiencies, incorporating automated approvals, task assignments, and archival tracking.

## PROJECTS

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**CrowdStrike Outage Case Study** (Python)

July 2024 - August 2024

- Implemented causal inference techniques to assess the impact of a widely reported computer outage on CrowdStrike's stock price, incorporating time series data from multiple relevant companies
- Identified and validated a 10% return decrease as a direct result of the CrowdStrike outage, using a difference-in-difference model to compare CrowdStrike as a treatment, and other stocks as a control

**Analysis of Student Activities on Class Performance** (R)

January 2024 - April 2024

- Utilized multiple regression analyses on over 2,000 individuals to assess the impact of study hours, absences, extracurricular participation, and employment on exam performance.
- Implemented data transformations and residual analysis to correct for non-linearity and heteroscedasticity, enhancing the reliability of insights into factors that influence performance.

**Housing Price Forecast** (Python)

August 2024 - December 2024

- Completed an end-to-end data science project, including data cleaning, exploratory analysis, feature engineering, predictive modeling and model evaluation
- Leveraged Python and key libraries such as Pandas and NumPy for data manipulation, Matplotlib for visualization and Scikit-learn for machine learning workflows, including feature scaling and encoding via pipelines.
- Improved predictive accuracy by reducing RMSE scores by 16.7% through advanced data preprocessing

## ACTIVITIES

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**The Scholarly Reading Circle For Economics**

Champaign, IL

*Co-President*

January 2024 - Present

- Organized and led data science workshops for 50+ economics students, featuring live demonstrations in Python and R on topics like data visualization, time series forecasting, regression, and data cleaning