

# Ellen Martin

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## PROFESSIONAL SUMMARY

Master's student in Data Science with 5 years of research and practical experience in psychology and neuroscience, skilled in R, Python, SQL and MATLAB. Strong track record of conducting behavioral experiments and publishing research in areas of cognitive neuroscience, causal inference and behavioral genetics. Actively seeking opportunities to leverage data science to solve complex challenges across professional domains, with a particular interest in applications of AI in psychiatry and mental health.

### CORE COMPETENCIES:

**Data Science & Machine Learning:**      ■ Exploratory Data Analysis ■ Statistical Analysis ■ Predictive Modeling ■ Big Data Analytics  
 ■ Natural Language Processing ■ Causal Inference ■ Longitudinal Analysis

**Programming & Tools:** ■ R ■ Python ■ MATLAB ■ SQL ■ Git ■ AWS S3, EC2 ■ JSON

**Research & Analysis:** ■ Gorilla Experiment Builder ■ REDCap ■ Data Science Pipelines ■ Qualtrics ■ Prolific

**Clinical Research & Experimentation:** ■ Experiment Design and Implementation ■ fMRI Data Acquisition ■ Cross-functional Collaboration ■ Clinical Interviewing ■ Patient Health Data Protection

## EDUCATION

Tagliatela College of Engineering, University of New Haven ▪ West Haven, CT

(expected 2026)

*Master of Science in Data Science*

- **Coursework:**
  - Machine Learning ▪ Big Data ▪ Data Visualization ▪ Natural Language Processing (NLP) ▪ Leadership in Data & AI Products ▪ Data Ethics ▪ Data Engineering
- **Tools:**
  - Python ▪ R ▪ SQL ▪ TensorFlow ▪ Hadoop ▪ Tableau ▪ AWS ▪ Git
- **Achievements:**
  - Dean's Scholarship

Anna Freud Centre, University College London ■ London, United Kingdom

*Master of Research in Developmental Neuroscience and Psychopathology* ■ Honors Graduate

- **Coursework:**  
Data Visualization ▪ Dimension Reduction ▪ Path Modeling ▪ Statistics ▪ Research Publication ▪ Neuroimaging ▪ Meta-Analysis ▪ Methods in Developmental Neuroscience
- **Tools:**  
▪ Python ▪ R

University College London ■ London, United Kingdom

*Bachelor of Science in Psychology ■ First Class Degree, Dean's List Graduate*

- **Coursework:**
  - Big Data ▪ Structural Equation Modeling ▪ Statistics ▪ Research Publication ▪ Causal Inference ▪ Behavioral Genetics ▪ Cognitive Neuroscience and Neurobiology ▪ Decision-Making ▪ Social Psychology ▪ Clinical Psychology
- **Tools:**
  - R ▪ FUMA ▪ SPSS ▪ Bash ▪ High-Performance Clusters
- **Achievements:**
  - Winner of the Undergraduate Project Prize

## PROFESSIONAL EXPERIENCE

Integrated Refugee and Immigrant Services ■ New Haven, CT

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June 2025 - Present

*Volunteer Data Analyst and Employment Assistant*

- Consolidated and cleaned 5 years of data from different sources for a final grant report.
- Analyzed data using R and Excel to report to department supervisors and program donors.

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- Generated user-friendly spreadsheets and formal reports for organization-wide use.
- Assisted clients with seeking and obtaining employment.

## Yale University ▪ New Haven, CT

June 2023 - December 2024

### *Postgraduate Research Technician, Rutledge Lab*

- Assisted with collection of neuroimaging, smartphone app and survey data for a longitudinal R01 study on happiness, decision-making and depression.
- Contributed to the development of a 12-month follow-up study arm, involving designing surveys and tasks to be delivered on a smartphone app.
- Collaborated with a team of developers and engineers to optimize user experience and data collection.
- Developed and maintained large participant databases to track participation, adherence and participant reimbursements.
- Implemented and developed economic decision-making models and computational models of mood.
- Utilized programming languages and tools such as Python, R and MATLAB to apply computational models, conduct statistical analyses, generate data visualizations for reports and presentations, and to execute techniques in natural language processing.
- Developed strategies to boost recruitment, participation and adherence, and improve the data quality.
- Developed pipelines for cleaning and pre-preparing data collected on the online Gorilla platform for analysts.
- Presented research based on over 5,000 participants at the Computational Psychiatry Conference (2023).

## Yale University Child Study Center ▪ New Haven, CT

August 2022 - June 2023

### *Research Assistant, Stover Lab*

- Interviewed and collected data from participants in the Fathers for Change intervention for family violence.
- Contributed to lab manuscripts by conducting literature reviews.
- Designed a Python and AWS S3 Bucket pipeline for obtaining and analyzing biobehavioral data collected using wearable technology for a new clinical trial studying trauma.
- Analyze outcomes associated with the Fathers for Change intervention and examined participant adherence using R and SPSS.
- Analyzed a dataset containing 30 years' worth of data to examine outcomes associated with prenatal cocaine exposure.
- Presented research findings at the Western Psychological Association 2023 Conference in Riverside, CA.

## PROJECTS AND PORTFOLIO

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### Anxiety, Mood and Decision-Making ▪ New Haven, CT

February 2024 – December 2024

#### *Postgraduate Research Technician, Yale University Rutledge Lab*

- Research project for a poster submission at the Computational Psychiatry Conference (2023, Minnesota).
- Cleaned and analyzed over 5,000 individuals' worth of smartphone data to examine the impact of depression and anxiety.
- Using MATLAB and R, adapted existing economic models of decision-making and happiness to fit a risky and uncertain decision-making game.
- Findings revealed altered mood sensitivity among participants with higher levels of anxiety in response to riskier options.

### Language Conceptualizations of Depression ▪ New Haven, CT

August 2023 – December 2023

#### *Postgraduate Research Technician, Yale University Rutledge Lab*

- Exploratory research project comparing numeric scale ratings of depression to language conceptualizations of depression.
- Generated word embeddings from OpenAI.
- Implemented NLP techniques such as computing Euclidean and Cosine distance between embeddings and implementing dimensionality reduction techniques.
- Findings highlighted the added value of collecting participants' responses to open-ended text prompts, beyond solely administering self-report numerical scales to understand depression.

### Genetic Underpinnings of Loneliness and Mental Health ▪ London, UK

August 2020 – July 2023

#### *BSc Psychology Undergraduate, University College London Causal Mapping Lab*

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- Analyzed genomic data from over one million individuals using Genomic Structural Equation Modelling to examine latent associations connecting loneliness, mental health disorders and substance use.
- Conducted a Genome-Wide Association Study (GWAS) to examine genetic loci associated with loneliness.
- Implemented Mendelian Randomization to conduct causal inference analysis.
- Findings highlighted the extensive genetic overlap between loneliness and disorders like depression and anxiety, beyond overlaps with substance use and disorders with psychotic features.
- Causal analyses suggested bidirectional causality between depression and loneliness.

## Professional Portfolio ▪ New Haven, CT, United States

- Access my professional portfolio: <https://ellenmartin11.github.io/portfolio/>

## PUBLICATIONS

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- **Martin, E.**, Ramos, K. N. L., Modanesi, E., Mayes, L.C., & Stover, C. S. (2025). *Substance Use, Executive Function and Young Adult Intimate Partner Violence: Direct and Indirect Pathways*. Journal of Interpersonal Violence.
- **Martin, E.**, Schoeler, T., Pingault, J-B & Barkhuizen, W. (2023). *Understanding the relationship between loneliness, substance use traits and psychiatric disorders: A genetically informed approach*. Psychiatry Res.
- **Martin, E.**, Hur, J. K, Bedder, R. L., Heffner, J., Kao, C-H., Feng, G. W., & Rutledge, R. (2024). *Anxiety alters mood sensitivity to outcomes during risky decision-making*. Computational Psychiatry Conference.
- Stover, C. S., Holland, M. L., **Martin, E.**, Modanesi, E., Fish, M. C., & Beebe, R. *Comparing in person to telehealth delivery of a family violence intervention*. (2024). Clinical Psychology & Psychotherapy.
- Schoeler, T., Baldwin, J., **Martin, E.**, Barkhuizen, W., & Pingault, J-B. *Assessing rates and predictors of cannabis-associated psychotic symptoms across observational, experimental and medical research*. (2024). Nature Mental Health.

## LANGUAGES

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English  
Spanish

Native-Speaker  
C1 – University College London

January 2012 – May 2019