Helen Peng (she/her)

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EDUCATION

Carnegie Mellon University

Bachelor of Science in Statistics

Concentration in Psychology GPA: 3.44 | Major GPA: 3.51

Pittsburgh, PA August 2022 – December 2025

Relevant Courses

Statistical Methods in Epidemiology Statistical Machine Learning Advanced Methods in Data Analysis

Advanced Methods in Data Analysis Modern Regression Causal Inference Statistical Graphics and Visualization Statistical Computing

Statistical Computing Statistical Inference

Probability Theory Meta-Analysis

Research Methods in Cognitive Psychology Modern Biology

Honors

Dean's List, High Honors: Fall 2022, Spring 2025

Dean's List: Spring 2023, Spring 2024

RESEARCH EXPERIENCE

UnitedHealth Group Bridges to Healthcare Technology Research Intern

Carnegie Mellon University

Pittsburgh, PA June 2025 – July 2025

- Applied regression modeling and variable selection techniques to identify key predictors of obesity rates, supporting policy discussions on physical inactivity and food access; co-presented findings to UHG professionals and peers
- Performed EDA and k-means clustering on COVID-19 case and death data across Pennsylvania counties; co-presented insights to cohort members
- Attended workshops and mentorship sessions with UHG professionals, gaining experience in healthcare analytics and datadriven decision-making

Research Assistant Pittsburgh, PA

Optimized Algorithms and Knowledge (OAK) Lab, Carnegie Mellon University

January 2023 – Present

- Conducted multilevel modeling (iAFM analyses) on data from 100+ participants to assess the effects of rule matching and interleaved pretraining on learning outcomes
- Engineered prompts for large language models (e.g., ChatGPT) to extract structured data from qualitative responses
- Created 10+ visualizations (e.g., bar plots, line plots, correlation matrices) and performed statistical tests (e.g., t-tests, chi-square tests, ANOVA) to evaluate how learning support and relational rule understanding impact performance
- Designed a Qualtrics survey to compare learning methods and motivation, analyzed results, and visualized trends in Excel
- Anonymized 200+ test papers, ensuring compliance with privacy standards by labeling, scanning, and uploading them to a shared drive

TEACHING EXPERIENCE

Teaching Assistant

Pittsburgh, PA

Research Methods in Cognitive Psychology, Carnegie Mellon University

January 2025 – May 2025

- Served as the sole TA for a class of 8 students; managed timely grading of all assignments while maintaining a full academic schedule
- Aided students with limited R experience in debugging code, conducting analyses, and interpreting results during weekly held office hours and in lectures

PROFESSIONAL EXPERIENCE

Financial Research Intern

Hong Kong

Zhong Ou Asset Management Intl

June 2024 - August 2024

- Created Excel visualizations to compare investment performance using advanced formulas, pivot tables, and conditional formatting
- Compiled monthly outlook reports summarizing China's economic indicators and competitor analysis to support strategic planning

Data Analyst Pittsburgh, PA

Students Using Data for Social Good, Carnegie Mellon University

February 2024 - May 2025

- Conducted statistical analyses (e.g., fisher's, kruskal-wallis, survival analysis) on healthcare data from 600+ clients to identify medication error patterns and improve service delivery for individuals with developmental disabilities
- Created 8+ visualizations (e.g. bar plots, survival curves) and co-presented actionable insights to nonprofit stakeholders to guide service improvements and resource allocation

Board Member Pittsburgh, PA

Cognitive Science Student Advisory, Carnegie Mellon University

August 2023 - Present

- Organized and promoted 10+ events to engage cognitive science majors via Discord, email, and Instagram; proposed the Boba finals pickup event, which became a popular, recurring tradition
- Interviewed and onboarded 5 new board members; mentored 5 students in statistics/data analytics track on navigating coursework and identifying research opportunities

PROJECTS

Hope and Depression Among Pandemic Graduates

March 2025 - May 2025

Tools Used: R

- Analyzed responses from 100+ survey participants to assess mental health differences between 2020 vs. 2021 graduates
- Applied PCA and logistic regression; developed and evaluated 5 models using bootstrap samples to ensure predictive reliability

Meta Analysis: Gender Stereotype Threats in Academic Settings

February 2024 - May 2024

Tools Used: R, Excel | Collaborators: Amor Ai, Sisley Yang, Frank Janicke, Eesha Nagpal, Camille Chandler

- Screened 117 studies, extracted effect sizes from 13 peer-reviewed articles
- Independently wrote a research paper summarizing the impact of gender-based cognitive performance in academic settings

Experiment: Gender Stereotype Threats and Heading-Recall Task

April 2024

Tools Used: Jamovi, Gorilla, Excel, Figma | Collaborators: Cami Streuly, Shirley Du, Cole Kaforey

- Conducted 1,400+ trials across 35 participants measuring memory performance under various conditions
- Cleaned data and performed ANOVA to analyze memory performance; co-presented results at the CMU Department of Psychology undergraduate research poster session.

PROFESSIONAL SKILLS

Programming & Data Analysis

- R: tidyverse, data.table, caret, survival, statistical modeling, markdown reporting
- Python: Basic knowledge of pandas and numpy
- SQL: PostgreSQL querying, relational database management
- Excel: Pivot tables, advanced formulas, conditional formatting, charts
- Jupyter Notebook: Integrated R/Python for reproducible workflows
- Quarto: Markdown reporting, presentations

Research Tools & Experimental Design

- Qualtrics, Gorilla: Survey and experimental protocol design, randomization, data collection
- LaTeX: Scientific writing and formatting
- GitHub: Version control and collaborative coding

Languages

English (Native), Mandarin Chinese (Heritage Proficiency), Spanish (Limited Proficiency)