

# Helen Peng (she/her)

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## EDUCATION

Carnegie Mellon University

Pittsburgh, PA

**B.S. in Statistics**, Expected December 2025

Concentration in Psychology

GPA: 3.44 | Major GPA: 3.51

### Relevant Coursework

Statistical Methods in Epidemiology	Causal Inference	Probability Theory
Statistical Machine Learning	Statistical Graphics and Visualization	Meta-Analysis
Advanced Methods in Data Analysis	Statistical Computing	Research Methods in Cognitive Psychology
Modern Regression	Statistical Inference	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 Program, Carnegie Mellon University**

Pittsburgh, PA

Research Intern

Summer 2025

- Conducted regression modeling and variable selection to identify key predictors of obesity and presented insights to UHG professionals and cohort members to inform discussions on potential interventions.
- Executed trend analysis on COVID-19 case and death data across Pennsylvania counties using EDA and k-means clustering to uncover patterns and insights.
- Engaged in workshops and mentorship sessions with UHG professionals, gaining hands-on experience in healthcare analytics and data-driven decision-making.

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

Pittsburgh, PA

Research Assistant

Spring 2023 – Present

- Applied methods to extract structured insights from qualitative participant responses, using text embedding and clustering techniques to identify patterns in responses.
- Implemented multilevel modeling on data from 100+ participants to evaluate effects of rule matching and interleaved pretraining on learning outcomes.
- Created 10+ visualizations and executed statistical tests on learning outcomes, including analyses of blocked vs. interleaved training and learning support, and prepared reports to communicate findings.
- Designed and analyzed Qualtrics survey comparing learning methods and motivation, synthesizing results and visualizing trends in Excel.
- Managed anonymization of 200+ test papers, ensuring privacy compliance through labeling, scanning, and organized data uploading.

## TEACHING EXPERIENCE

**Research Methods in Cognitive Psychology, Carnegie Mellon University**

Pittsburgh, PA

Teaching Assistant

Spring 2025

- Supported 8 students in debugging R code, conducting analyses, and interpreting statistical results during office hours and lectures, while managing a full academic schedule.

## PROFESSIONAL EXPERIENCE

**Zhong Ou Asset Management Intl**

Hong Kong

Financial Research Intern

Summer 2024

- Produced 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.

## VOLUNTEER & LEADERSHIP EXPERIENCE

## Students Using Data for Social Good, Carnegie Mellon University

Pittsburgh, PA

### Data Analyst

Spring 2024 – Spring 2025

- Applied statistical analyses (Fisher's exact test, Kruskal-Wallis test, survival analysis) on healthcare data from 600+ clients with developmental disabilities, identifying patterns in medication errors and risk factors.
- Generated 8+ visualizations and data reports, translating findings into actionable insights that guided nonprofit stakeholders in improving service delivery and resource allocation.

## Cognitive Science Student Advisory, Carnegie Mellon University

Pittsburgh, PA

### Executive Board Officer

Fall 2023 – Present

- Organized and promoted 10+ academic and social events, including guest lectures and networking opportunities that connected undergraduates with graduate students and faculty.
- Launched the Boba Finals Pickup, a recurring end-of-semester event, providing peers with boba as a morale booster and fostering informal community interaction during finals.
- Interviewed and onboarded 5 new board members; mentored 5 students in the statistics/data analytics track on navigating coursework and identifying research opportunities.

## PROJECTS

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### Hope and Depression Among Pandemic Graduates

Spring 2025

#### Class Project – Data Science in Psychology and Neuroscience

- Evaluated 100+ participant survey responses to assess mental health differences between the undergraduate classes of 2020 and 2021; developed and applied statistical modeling (PCA, logistic regression) and sampling (bootstrap) techniques in R to build and validate five predictive models for mental health outcomes.

### Gender Stereotype Threats in Academic Settings

Spring 2024

#### Class Project – Research Methods in Meta-Analysis

- Collaborated in a five-person group to investigate how gender stereotype threats affect academic outcomes through a meta-analysis of 117 studies; screened articles together, independently extracted effect sizes from 13 peer-reviewed articles, and analyzed data in R to produce a research paper summarizing findings.

### Gender Stereotype Threats and Heading-Recall Task

Spring 2024

#### Class Project – Research Methods in Cognitive Psychology

- Teamed with three classmates to design and conduct a heading-recall task testing memory performance under gender stereotype threat (35 participants, 1,400+ trials); built the experiment in Gorilla, cleaned data in Excel, and performed ANOVA analyses in Jamovi; presented results at the CMU Department of Psychology undergraduate research poster session.

## SKILLS

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### 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)