Helen Peng (she/her)

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Bachelor of Science in Statistics — August 2022 – December 2025
Concentration in Psychology
GPA: 3.44 | Major GPA: 3.51

Relevant Courses

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 Intern — Pittsburgh, PA
Carnegie Mellon University — June 2025 – July 2025

- Analyzed COVID-19 cases and deaths in Pennsylvania, using EDA and K-means clustering to explore county-level patterns
- Modeled the impact of physical inactivity and food access on adult obesity rates with regression, GAMs, and regularization techniques using large-scale health data
- Attended workshops and mentorship sessions with UHG professional, gaining experience in healthcare analytics and data-driven 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 impacted performance
- Designed a Qualtrics survey to compare learning methods and motivation, analyzed results, and visualized trends in Excel
- Anonymized and organized 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

VOLUNTEER & LEADERSHIP EXPERIENCE

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 coursework and research

PROJECTS

CMU Capstone Project August 2025 – Present
Tools Used: R | Collaborators: [To be added]

- [To be added]

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 and analyzed data using ANOVA; co-presented results at the CMU Department of Psychology's 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)