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

Exploring Mental Health Among COVID-19 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.

Examining Gender Stereotype Threats on Academic Performance   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.

Navigating Stereotype Threats in Heading Recall Performance   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

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)

Commented [1]: ok i think overall you need consistency in how you structure the way you talk about these projects. research question -> methodology and sample size -> product is generally pretty good, like

"Evaluated 100+ participant survey responses to assess mental health differences between 2020 and 2021 graduates" = research question + sample.

"Developed and applied statistical modeling (PCA, logistic regression) and sampling (bootstrap) techniques" = methodology?

"to build and validate 5 predictive models for mental health outcomes" = product

Commented [2]: you should also be clear about whether these are projects you did on your own, with a partner, or with a group. and if these are undergrad-level projects, or if you worked on it under professor or graduate supervision, etc.