

Jeesung Ahn

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Curious and collaborative psychologist with 7+ years of research experience using multi-disciplinary methods to make data-driven predictions on how health interventions can improve physical and mental well-being.

EDUCATION

University of Pennsylvania, Ph.D. Candidate in Psychology, *Philadelphia, PA* expected 2024

Yonsei University, M.S. in Cognitive Science and Engineering, *Seoul, South Korea* 2018

Korea University, B.A. in Psychology & B.S. in Brain and Cognitive Sciences, *Seoul, South Korea* 2015

RELEVANT EXPERIENCE

Ph.D. Researcher in Psychology | Penn Communication Neuroscience Lab 2019 – Present

- Led multiple projects for a \$5M+ multi-disciplinary research initiative in close collaboration with cross-functional teams from 7+ institutions and 23+ affiliations. Applied brain network-based predictive modeling (mainly supervised learning) to predict who would most benefit from different health interventions.
- Created, documented, and troubleshooted lab-wide Python pipelines to preprocess, analyze and visualize noisy multi-dimensional data. Data included behavioral experiment outcomes, surveys, ecological momentary assessments, and neuroimaging (~61TB). Pipelines are now actively used by labs around 3+ countries.
- Synthesized (coding, cleaning, resampling, standardizing) 30K+ multimodal health messages (e.g., text, image, video) and behavioral outcomes (e.g., longitudinal accelerometer logs) collected from 6 labs across 17 studies. Built multivariate models to predict the individual- and population-level impact of message interventions.
- Performed exploratory data analyses and unsupervised machine learning (*PCA, K-means clustering*) on a dataset with 5690 (food) × 154 (nutrients) dimensions to create a data-driven algorithm that provides food recommendations based on an individual's dietary needs. Presented findings at Wharton Data Science Live.
- Writing up 10+ papers (7+ first-authored) for publication. Gave 6 international conference presentations (3+ *upcoming*) to diverse audiences (including an award-winning invited talk).

Consultant | Penn Biotech Group Healthcare Consulting Sep 2022 – Present

- Presented weekly deliverables (slide decks) to a biotherapeutic company regarding the market landscape for novel cancer therapy that will have high impact on 1M+ tumor patients. Developed a set of fast-paced and data-driven recommendations for partnership opportunities, market sizing, and pricing.

Data & Outcomes Committee | Penn Mind Sciences Diversity and Equity Initiative Mar 2022 – Present

- Hosted an outreach program to mentor underrepresented minority students in their career paths in science.
- Designed and collected surveys to assess participants' experience with the program. Wrangled and analyzed pre- vs. post- event data and visualized outcomes using R (*ggplot2, wordcloud, R Markdown, Jupyter Notebook*).
- Presented actionable insights to program organizers on what aspects of the program could be improved.

Research Fellow | Penn Data Science Group Feb – May 2022

- Wrangled and analyzed climate data in the greater Philadelphia area. Worked cross-functionally to create interactive geographical maps that depict air quality and relevant health outcomes, using R (*shiny*) and HTML.

Research Associate & Research Consultant | Yonsei Applied Brain Cognition Lab 2015 – 2019

- Designed and executed all phases of 7+ lab behavioral and neuroimaging projects, resulting in 3 first-author publications, an award-winning Master's thesis, and 6 international conference presentations.
- Provided consulting for a start-up company on the efficacy of their novel neurostimulation technology in enhancing cognitive functions. Designed and conducted award-winning A/B tests and usability tests (surveys, interviews, behavioral and neuroimaging experiments), making a major contribution for the company to secure funding (approx. \$100K). Published a first-author paper and presented findings to stakeholders (e.g., venture capital funders, designers, engineers) to inform and advocate the direction of product development.

TECHNICAL SKILLS

End-to-End Research: experiment & survey design, data collection (survey, behavior, neuroimaging, screening), data wrangling & analysis (*Python, R, SQL*), data visualization & presentation (*ggplot2, shiny, seaborn*), writing

Statistics: regressions, multivariate statistics, mixed effect modeling, machine learning, time-series analysis