Hannah Ryu

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EDUCATION

University of Washington, B.S. in Data Science (Minor in Biochemistry) — Expected May 2026

Coursework: Machine Learning, Biostatistics, Probability and Statistics, Generalized Linear Models, Statistical Computing, Applied Regression, Databases, Data Programming, Data Visualization, Advanced Linear Algebra, General Chemistry, General Biology, Organic Chemistry I + II

SKILLS

Languages: Python, SQL, HTML/JavaScript, Tableau, R
Libraries: Pandas, Scikit-learn, TensorFlow, Seaborn, NumPy, SciPy, Matplotlib, tidyr, dplyr, Shiny
Data Science/ML: Machine Learning, Survival Analysis, Predictive Modeling, Data Pipelines, Reproducible Workflows

EXPERIENCE

Data Science Intern - Fred Hutchinson Cancer Center — June 2025 – Aug 2025

- Engineered full analysis workflow for a **700+ participant** breast cancer dataset, performing data cleaning, transformation, and survival modeling to support evidence-based prevention research
- Built automated evaluation pipelines for clinical classification models, computing precision, recall, F1, and ROC metrics across **4+ algorithms** to guide model selection in production settings
- Collaborated with clinical researchers, data scientists, and ML engineers to define requirements, validate datasets, and ensure reproducibility across end-to-end analytic workflows

Statistical Research Assistant - University of Washington (Arce-McShane Group) — Oct 2023 – Present

- Identified rare disease-pattern correlations in aging populations using non-parametric statistical methods, securing **$10,000** in research funding
- Built reproducible data processing and visualization workflows in Python to analyze high volume neural and behavioral data, producing publication-quality figures used in talks, conferences, and manuscripts
- Provide statistical guidance to postdoctoral researchers on experimental design, hypothesis testing, and modeling strategies, advancing 2 ongoing publications

Behavioral Data Research Assistant - Washington National Primate Center — Oct 2023 – November 2024

- Identified a major statistical flaw in the legacy data collection pipeline, invalidating **2 years'** of historical data and prompting a full redesign of the system
- Trained primates on touchscreen memory tasks and increased reliable daily trial counts by roughly **25%**, generating higher quality datasets for four ongoing projects

Teaching Assistant - University of Washington — Dec 2023 – March 2024

- Guided over **200 students** in mastering Python programming and core data science concepts through section leadership, office hours, debugging support, and grading feedback on assignments and assessments
- Actively communicated with TA community to design engaging, accessible curriculum and clear rubrics for beginner-level programming

PROJECTS

CareLens (T-Mobile Best Tech Award, DubHacks 2025)

- Awarded 1st place and **$2000** among 700+ participants in largest hackathon in the PNW, selected to present for T-Mobile CTO/leadership
- Built an offline fall detection device using Raspberry Pi and fall heuristics, detecting elderly falls and trigger automated emergency alerts to caregivers

Bayesian Analysis of COVID-19 Vaccine Efficacy *R, Latex, GitHub*

- Conducted full pipeline analysis of COVID 19 vaccine efficacy using Bayesian and Frequentist frameworks, performing data cleaning, uncertainty quantification, and reproducible model comparisons documented in a 12-page report

AWARDS

1st Place ($2000) T-Mobile Tech Award, DubHacks 2025 — Oct 2025
Mary Gates Research Scholarship — Feb 2025
Dean's List (Awarded for all quarters) — Sept 2022 - Present