Alex Okeson, Ph.D.

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Skills

Programming: Python, SQL, R, Git, Jupyter Notebooks, VSCode. Exposure to AWS, C++.
Data Science & Machine Learning: Scikit-learn, Pandas, NumPy, Snowflake, data pipelines, experiment design, exploratory data analysis (EDA), ETL, data wrangling, feature engineering, predictive modeling, statistical modeling, model evaluation, SHAP, InterpretML. Basic exposure to PyTorch, TensorFlow, Keras, Spark.
Data Visualization & Communication: Matplotlib, Seaborn, R Shiny, D3.js, data dashboarding, data storytelling

Work Experience

Senior Research Engineer I – iRhythm Technologies
Nov 2022 - July 2024
- Led **data acquisition and exploratory data analysis** to evaluate product feasibility and inform go/no go decisions
- Built and optimized **Python-based data pipelines** from data processing to data analysis
- Collaborated with product, engineering, and research teams to **translate project ideas into actionable ETL data pipelines** and deliver targeted data from a database of 5M+ samples using SQL and Snowflake
- Supported prototyping, experiment design, and validation in **cross-functional R&D efforts** for early-stage product validation

Graduate Research Assistant – University of Washington
Sept 2017 - June 2022
Project: Actionable Bayesian Analysis for Evolving Health Goals (Publication under review)
- Developed a Bayesian analytics platform in R and R Shiny for chronic health condition data, **enabling adaptive goal-oriented decision support**
- Supported 10+ unique health conditions with a single, **flexible data analytics platform**
- Conducted **user research and multi-stage evaluation studies** across 12 participants and 21 interviews, integrating statistical and qualitative findings to guide system improvements

Project: Dementia Onset Prediction with Explanations (Publication Link)
- Created interpretable ML models in Python achieving over **90% accurate prediction of dementia onset**, comparable to clinical benchmarks
- Discovered **population-level and individualized diagnostic insights** using Scikit-learn and SHAP trained globally and locally interpretable ML models
- Designed and validated a diagnostic test **5x shorter** than clinical standards while maintaining accuracy

Research Intern – Microsoft (Microsoft Research FATE Group)
June 2020 - Sept 2020
- Designed and conducted 17 stakeholder interviews to **identify user pain points** and successes
- Developed **data visualization schemes** in Python for ML interpretability tools to improve model understanding
- Unlocked **new workflows to find insights** for 70% of experienced ML practitioners interviewed

Software Engineering Intern – Google (Google Health/Fitbit)
June 2021 - Sept 2021
- Designed and developed an **ML sandbox tool** in Python for ranking and classification model evaluation on personal health data
- Implemented **reproducible ML workflows** to accelerate experimentation and model comparison

Education

PhD, Computer Science & Engineering – University of Washington (2022)
Focus: Applied machine learning systems for decision support
MS, Computer Science & Engineering – University of Washington (2021)
BS, Computer Science – University of Colorado Boulder, GPA: 4.0 (2017)

Other Interests

- **Technical interests:** AI for non-AI experts, exploratory data analysis, ML explainability, predictive ML
- **Travel:** Spent a year (Aug 2024-Aug 2025) traveling to 19 countries across 5 continents