

Lea Frank

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SKILLS

Programming	R, Python, SQL, Unix/Linux, HTML, CSS, Git/GitHub, distributed & cloud computing on HPC cluster, independently developed R packages, data visualization with R-based dashboards
Statistical Analysis	A/B and multivariate testing, regression, chi-squared, multilevel modeling, mediation/moderation, clustering & factor analysis
Machine Learning	Support vector machine learning, experience with KNN, tree models, naive bayes, artificial neural nets, and natural language processing

EXPERIENCE

- Data Science Mentor**, RStudio Apr 2022 – Present
- Mentor clients from different domains to learn R and expand their programming skillset
 - Reinforce complex programming concepts by facilitating discussion and fostering a community of learners
- Graduate Researcher**, University of Oregon Sept 2016 – Sept 2022
- Significantly contributed to theories of memory by spearheading 8 end-to-end projects that leveraged experimentation, statistical analysis, and machine learning
 - Identified unstructured problems and translated them into research hypotheses, key performance metrics, and statistical analyses that would provide relevant insights
 - Streamlined the wrangling and analysis of big data by programming reproducible pipelines via distributed and cloud computing systems
 - Generated and synthesized insights to make evidence-based recommendations for stakeholders on future iterations of research
 - Produced clear visualizations and reports to effectively communicate the key takeaways and impacts of my research, including 10+ conference presentations (expert audiences), 9 community outreach events (non-expert audiences), and 4 research reports (expert audiences)
 - Mentored 7 researchers on their research, consulting on experimental design, ensuring adequate resources, statistical analysis, and presentation of findings
- Instructor & Teaching Assistant**, University of Oregon Sept 2017 – Dec 2020
- Led discussions and lectures to convey statistical concepts and tools to non-expert students
 - Evaluated user engagement, learning, and feedback to improve course material and lessons
- Researcher**, Kessler Foundation Aug 2014 – Aug 2016
- Collaborated with cross-functional teams (e.g., engineers, clinicians, physical therapists) to develop standardized research protocols that streamlined data collection
 - Conducted usability testing and user interviews to improve the functionality and design of virtual-reality-based treatments for cognitive and balance impairments

DATA SCIENCE PROJECTS

- “Predicting student performance using machine learning”**, Data Science Specialization
- Participated in a Kaggle competition where my team leveraged linear regression, random forest, and boosted tree models to predict student performance on statewide exams
 - Optimized models to increase predictive accuracy and presented findings in a blog post
- “Using NLP to classify real v. fake news articles”**, Machine Learning in Python Course
- Successfully classify real v. fake news articles using Naïve bayes with word bags and artificial neural nets (ANN) with word embeddings
 - Optimized an ANN model that out-performed Naïve bayes with a final classification accuracy of 94%

“Class imbalance in fMRI pattern analysis”, Data Science Specialization

- Built a flexdashboard in R to highlight the effect of imbalanced class sizes in fMRI classification problems

EDUCATION

Ph.D. in Cognitive Neuroscience, University of Oregon, June 2022

Specialization in Educational Data Science, University of Oregon, June 2022

M.S. in Cognitive Neuroscience, University of Oregon, June 2017

B.A. in Psychology, Marist College, August 2014

COMMUNITY & VOLUNTEER ACTIVITIES

- Planning committee for CascadiaR Conference, managed the conference website (2021, 2022)
- Led an annual workshop for a program designed to inspire middle school and high school students from low socioeconomic, first-generation, and underrepresented backgrounds to pursue higher education (2018 – 2022)
- Led an annual workshop for a program that connects motivated high-school students with STEM internships (2018 – 2019)
- Hosted booth at science fair for children in elementary/middle school (2016, 2019)
- Led a workshop for *Brain Awareness Week* at local elementary school (2018)