Frances McQuarrie
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Education

2020-Present

University of Washington, Seattle
Master of Science in Statistics – Advanced Methods and Data Science Analysis
GPA: 3.79

2016-2020

University of California, Berkeley
Bachelor of Arts in Statistics & Data Science, minor in Computer Science
Honors with distinction, GPA: 3.78

Experience

Data Science Summer Intern, Adobe Systems — Summer 2021

- Implemented two popular ranking models– LightFM and Wide & Deep – to improve recommendations made to free trial customers.
- Performed feature selection and hyper parameter tuning to improve model metrics.
- Adapted model training procedures to use distributed data stored in Pyspark DataFrames.

Research Assistant, Look Who's Talking Project — Spring & Summer 2019

- Member of undergraduate student group working under Statistics PhD student Amanda Glazer and Statistics Professor Phillip Stark.
- Annotated videos of UC Berkeley faculty candidates on number and type of interruptions during the presentations.
- Performed nonparametric permutation test analysis on the difference in interruption rates among genders.

Research Assistant, Data Science Discovery Program — Fall 2018

- Assisted Sociology PhD student Krista Schnell.
- Deployed Python's BeautifulSoup package to scrape articles tagged with "Codingbootcamp" on Medium.com.
- Analyzed features such as the number of different bootcamps mentioned, the distribution of "claps", the ability to predict author gender, and utilized the Seaborn visualization library to discern any differences in the publishing patterns between males and females.

Research Summer Intern, Adobe Systems — Summer 2018

- Implemented a Ruby on Rails web app to easily access and submit machine learning jobs to Adobe Research's internal GPU cluster, which was used to train new models that required heavy computing power.
- Developed Ruby scripts to automate the creation and submission of jobs to the HTCondor scheduler, which would launch Docker containers on the cluster machines, allowing users to create a ssh session and test models on high performance GPU's.

Business Operations Intern, Tribe Dynamics Summer 2017

- Tribe Dynamics is a small startup that uses data science techniques to track social media influencers and advise companies on the new field of influencer marketing.
- Wrote and developed a Python program that returned any "home" location mentioned in an Instagram profile description.

Teaching Experience

Lecturer Summer 2019

- I co-lectured STAT/CS/INFO C8: Foundations of Data Science (data8.org/su19)
    - Developed, prepared, and presented three 50-minute lectures per week for 8 weeks.
    - Managed 300 students and a staff of 24 UGSI's and tutors.
    - Developed course content and assignments.
    - Wrote and administered exams.

Undergraduate Student Instructor (UGSI) Spring 2020

- STAT/CS/INFO C100: Principles and Techniques of Data Science
    - This is the initial upper-division course designed to prepare students with the necessary mathematical and computational foundation for further upper division machine learning courses.
    - As a 20 hour/week UGSI, my role included
        - Leading two discussion sections and two laboratory sessions per week
        - Holding office hours
        - Coordinating accommodations for students in the Disabled Students Program
        - Being a point person for student concerns and questions coordinating exams and their accompanying logistics
- STAT88: Probability and Mathematical Statistics in Data Science Fall 2019
    - This is a lower division probability course for students interested in the theory and practice of common probabilistic and statistical methods.
    - Each UGSI holds office hours and two hour-long discussion sections per week, where students walk through practice problems and strategies.
    - As a 20 hour/week UGSI, my role also included
        - Creation and administration of the course website (stat88.org)
        - Building and upkeep of the course textbook (stat88.org/textbook)
        - Managing and supporting a staff of 15 UGSI's and tutors
        - Content creation
        - Course logistics and administration (midterm planning etc.)

- STAT/CS/INFO C8: Foundations of Data Science — Spring 2017-Spring 2019
  - This course, commonly referred to as Data 8, teaches basic programming and statistical concepts to enable students with no prior technical experience to gain data analytical skills.
  - My first semester was spent as a tutor, leading tutoring sessions and grading assignments, after which I became a UGSI.
  - As an 8 hour/week UGSI, my duties included:
    - Leading a two-hour lab session, which consists of a discussion worksheet and a jupyter notebook assignment.
    - Holding weekly office hours for students to ask questions and receive help.
    - Assisting the professors in developing assignments.
  - Over the semesters, I assisted with carrying out the grading structure, developing pedagogy and assignments, and coordinating instruction and mentorship of Lab Assistants

Awards

2018 Outstanding Graduate Student Instructor Award — Spring 2018

- Granted to graduate or undergraduate student instructors nominated and selected by the department for their exceptional teaching skills

Skills

- **Proficient**: Python, R, SQL, pandas, sklearn, LaTeX, NumPy, SciPy, matplotlib, seaborn, Pyspark
- **Familiar**: C, regex, Pytorch, TensorFlow

Coursework

Upper division Statistics courses (UC Berkeley):

STAT/CS100	Principles & Techniques of Data Science
STAT102	Data, Inference, and Decisions
STAT133	Concepts in Computing
STAT135	Concepts of Statistics
STAT140	Probability for Data Science
STAT150	Stochastic Processes
STAT151A	Linear Modeling: Theory and Applications
STAT153	Time Series and Applications
STAT158	Design and Analysis of Experiments

Graduate Statistics courses (University of Washington):

STAT504	Applied Regression
STAT512	Statistical Inference
STAT513	Statistical Inference II
STAT516	Stochastic Modeling
STAT517	Stochastic Modeling II
STAT527	Nonparametric Regression and Classification
STAT534	Statistical Computing
STAT563	Statistical Demography

Upper division Computer Science courses (UC Berkeley):

CS189	Introduction to Machine Learning
EECS127	Optimization Models in Engineering

Other relevant upper division courses (UC Berkeley):

ECON101A	Economic Theory-Micro
MATH104	Real Analysis
MATH110	Linear Algebra