

Novin Ghaffari

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SUMMARY

A statistical data scientist with 12+ years of experience in data analysis and machine learning. An efficient communicator with experience in teaching, research, business strategy, and project management. Possesses a strong mathematical background; proficient in Python, R, and SQL.

CORE COMPETENCIES

- Problem-solver
- Effective Communicator
- Critical Thinker
- Team-worker
- Self-starter
- Operational Strategist

PROFESSIONAL AND RESEARCH EXPERIENCE

NULIXIR, INC

Chief of Data and Analytics, Jan 2021 – present

- Conducted background research and developed reporting covering business intelligence, marketing, and clinical scientific data for nutraceuticals.
- Developed a preliminary database using MySQL and a data schema using 'sqlalchemy' Python.
- Developed API access tools in Python connecting lab scientists to PubChem and ChemSpider databases.
- Assisted on power calculations, design of experiments, and R shiny reporting app for internal clinical trials.

SETCONNECT, INC

Content Developer, Aug 2020 – present

- Developed introductory courses for data analytics in Python, business statistics, and predictive analytics, designing course material, assignments, and recording parts of the courses.
- Developed seminars on data science and modeling for major Indian corporations and business associations.
- Participated in business development strategy and planning, designing core operational tactics for future business directions.

SOUTHERN METHODIST UNIVERSITY

Adjunct Professor, Oct 2021 – present

- Taught 'Doing Data Science,' an introductory data science course covering the basics of statistics, modeling, and common tech platforms for working professional data science master's students.
- Troubleshooted several issues in the course material related to outdated content.
- Assisted on monthly planning meetings to determine scope and design of the data science program.

FREELANCE CONSULTING

Self-Employed, June 2020 – May 2022

- Worked with clients, from academia to industry, on a variety of data analysis and modeling challenges.
- Performed analysis estimating genetic content of hybrid plants for Ag Biotech, Inc reducing royalties owed by client by 30%.
- Advised PhD researcher on decision tree methods to better model nonlinear effects present in field data.

SANDIA NATIONAL LABORATORIES

Research Assistant, Apr 2018 – Sept 2018

- Developed statistical routines for consolidating data across experiments into a consensus model, enabling separate modeling of uncertainty within experiments.
- Implemented method of ‘Wasserstein scalable posteriors’ allowing for non-normal distributions, benchmarking against ‘consensus Monte Carlo.’
- Implemented a fixed-point barycenter method as a less flexible, more scalable alternative to the WASP.

PHD THESIS, UT AUSTIN

Doctoral Candidate, Sept 2016 – Dec 2019

- Conducted cross-disciplinary mathematical research for ‘optimal transportation’ topic and presented the theory, using illustrative visuals and basic examples making concepts comprehensible.
- Developed several minor theoretical results and algorithmic applications for Wasserstein barycenters.

UNIVERSITY OF TEXAS AT AUSTIN

Research Assistant, Jun 2016 – Aug 2017

- Assisted department chair Dr. Daniels with research extending ‘network meta-analysis’ methods to scenarios with instrumental variables and missing data.
- Applied research methods involving simulation and requiring learning openBUGS, JAGS, and Stan.

UNIVERSITY OF TEXAS AT AUSTIN

Teaching Assistant, Sept 2012 – May 2016, Sept 2017-May 2019

- Assisted on statistics courses ranging from introductory to graduate level.
- Managed undergraduate teaching assistants for large classes, delegating tasks and establishing protocols for grading, tutoring, and reporting problems.
- Ran computer lab sessions on R for students, presenting and explaining R code, directing undergraduate teaching assistants, and aiding students with statistical and computer issues.

UNIVERSITY OF TEXAS AT AUSTIN

Short Course Instructor, May 2015

- Taught week-long introductory course on R, developing examples for instruction and balancing basic and advanced concepts for diverse audience needs.
- Directed undergraduate assistant instructors, reviewing code and content before each class and setting guidelines for aiding students with statistical and computer related issues.

FREESCALE SEMICONDUCTORS, INC

Research Assistant, Jan 2014 – May 2014

- Worked on product quality analysis, narrowing scope to an unsupervised clustering problem, helping identify systematic product defects.
- Implemented a ‘distance dependent Chinese restaurant process’ for unsupervised clustering of data with Bayesian hyperparameter estimation.
- Presented results to business professionals, using graphics and analogies to describe the Chinese restaurant process.

MASTERS THESIS

Masters Candidate, Sept 2013 – May 2014

- Initiated independent research into stable distribution theory, a mathematically-challenging, lesser known field of statistics.
- Implemented MCMC routines and an FFT method for inference with stable distributions.

PUBLICATIONS

- Ghaffari, N. and Walker, S.G. **Parseval's Identity and Optimal Transport Maps**. *Statistics and Probability Letters*. March 2021; 170: 108989
- Ghaffari, N. and Walker, S.G. **W_2 Barycenters for Radially Related Distributions**. *Statistics and Probability Letters*. April 2023; 195: 109788

EDUCATION

UNIVERSITY OF TEXAS, Austin, TX

PhD, Statistics, Dec 2019

- GPA: 3.87/4.0

UNIVERSITY OF TEXAS, Austin, TX

Masters of Science, Statistics, May 2014

- GPA: 3.7/4.0

UNIVERSITY OF TEXAS, Austin, TX

Bachelor of Business Administration, Finance, May 2012

Minor: Supply Chain Management

- GPA: 3.78/4.0

UNIVERSITY OF TEXAS, Austin, TX

Bachelor of Science, Mathematics, May 2012

- GPA: 3.78/4.0

UNIVERSITY OF TEXAS, Austin, TX

Bachelor of Arts, Plan II, May 2012

- GPA: 3.78/4.0

SKILLS

- **Computer:** Microsoft Office, R (ggplot2, tidyverse, openBUGS, Rshiny), Python (numpy, scipy, pandas, scikit-learn, matplotlib, seaborn, tensorflow), Jupyter, SQL, SAS, LaTeX