Amy Fox

(281) 435-9719 • amyfox@ricealumni.net
amyfox.netlify.app • linkedin.com/in/amy-fox1 • github.com/aef1004

Ambitious data scientist with a "can-do" attitude and a history of working in research and start-up environments. Thrives off of problem solving and developing creative solutions. Eager to join and grow with a fast-paced team that has a passion for innovation and values the integration of data science and business acumen to develop data-driven solutions.

KEY SKILLS

- Experience with R programming, machine learning, statistical analysis, large biological datasets, SQL, data visualization, and Git version control
- Trained in effective communication, leadership, and project management
- Supervising team members, mentoring new students, and working collaboratively within a cross-functional team

EXPERIENCE

Senior Data Scientist, **Founding Team,** The Neighborhood Score, Houston, TX 2020 – Present

- Managing the data science team and leading cross-disciplinary communication
- Analyzing data to create efficient scoring frameworks that optimize meaning for users
- Mining essential and robust datasets, ensuring compatible formatting for the website

Ph.D. Candidate, Colorado State University, Fort Collins, CO 2017 – Expected December 2021

- Performing wet lab preclinical trials and dry lab data analysis
- Developing an R-based data analysis pipeline for large flow cytometry data and multivariate analysis
- Feature engineering millions of cells and developing linear models
- Reduced the amount of time to analyze data from weeks to minutes
- Code is available open-source at https://github.com/aef1004/cyto-feature_engineering

Ambassador, CSU Ventures, Fort Collins, CO 2020 – 2021

- Performing technology assessments including developing prior art searches, competitive landscapes, and market research analyses
- Supporting licensing staff by identifying and evaluating intellectual property

Data Scientist Consultant, Santangelo Lab, Colorado State University, Fort Collins, CO 2019

- Created analysis pipeline for analyzing nanostring data that reduced analysis time per experiment from 1 week to under 1 minute.
- Performed automated statistical analysis on hundreds of genes per study animal, through testing each gene-mouse group pair for normality, similar variances, and then performing appropriate statistical tests

Engineering Team Lead, Rice University, Houston, TX 2016 – 2017

- Team lead for a group of five engineering students tasked with developing a smart compression sock to treat chronic venous disorders
- Engineered a lace-tension control compression sock to be easier to don and doff while applying the correct pressure
- Patent is pending based on this technology

EDUCATION

PhD in Microbiology, Immunology, and Pathology — December 2021
Colorado State University, Fort Collins, CO — GPA: 4.0

Bachelor of Science in Bioengineering — May 2017
Rice University, Houston, TX — GPA: 3.3

SELECTED AWARDS AND PATENT

2021 22nd Annual CVMBS Research Day, **3rd Place Outstanding Poster Presentation Award**
2020 21st Annual CVMBS Research Day, **2nd Place Outstanding Oral Presentation Award**
2019 National Science Foundation, **Gaussi Fellowship**
2019 International Society for Advancement of Cytometry Conference: **Outstanding Poster Award**
2017 Adjustable Compression Sock: **Patent Pending**
2017 Rice University Bay Area Showcase: **Most Investable Design Award**
2017 School of Engineering Design Showcase and Poster Competition: **People's Choice Award**
2016 Eighth Annual Elevator Pitch Competition: **1st Place**
2016 Eighth Annual Elevator Pitch Competition: **People's Choice Award**

PUBLICATIONS

1. **Fox A**. Computational Tools to Identify Correlates of Vaccine-Induced Protection Against Tuberculosis. PhD Dissertation. Colorado State University. 2021.
2. **Fox A**, Dutt T, Karger B, Obregon-Henao A, Anderson B, Henao-Tamayo M. Acquisition of High-Quality Spectral Flow Cytometry Data. *Current Protocols in Cytometry*. 2020; 93(1).
3. **Fox A**, Dutt T, Karger B, Rojas M, Obregon-Henao A, Anderson B, Henao-Tamayo M. Cyto-feature engineering: A pipeline for flow cytometry analysis to uncover immune populations and associations with disease. *Scientific Reports*. 2020; 10.
4. Ragan IK, Hartson LM, Dutt TS, Obregon-Henao A, Maison RM, Gordy P, **Fox A**, Karger BR, Cross ST, Kapuscinki ML, Cooper SK, Podell BK, Stenglein MD, Bowen RA, Henao-Tamayo M, Goodrich RP. A Whole Virion Vaccine for COVID-19 Produced via a Novel Inactivation Method and Preliminary Demonstration of Efficacy in an Animal Challenge Model. *Vaccines*. 2021; 9(4):340.
5. Tiwari S, Dutt TS, Chen B, Chen M, Kim J, Dai AZ, Lukose R, Shanley C, **Fox A**, Karger BR, Porcelli SA, Chan J, Podell BK, Obregon-Henao A, Orme IM, Jacobs WR Jr, Henao-Tamayo M. BCG-Prime and boost with Esx-5 secretion system deletion mutant leads to better protection against clinical strains of Mycobacterium tuberculosis. *Vaccine*. 2020; 38(45):7156-7165.
6. Costa A, **Fox A.** An Experimental Evaluation of Gar Scale Arrow Points. *Journal of Houston Archeological Society*. 2016; 136: 23-31.
7. Bermúdez S, Gottdenker N, Krishnvajhala A, **Fox A**, Wilder H, Gonzalez K, Smith D, Lopez M, Perea M, Rigg C, Montilla, S, Calzada J, Saldaña A, Caballero C, Lopez J. Synanthropic mammals as potential hosts of tick-borne pathogens in Panama. *Plos One*. 2017; 12(1).