Amy Fox

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Ambitious data scientist with a "can-do" attitude and a history or 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 quality products.

KEY SKILLS

- Experience with R programming, machine learning, statistical analysis, and version control
- Trained in effective communication and leadership
- Supervising team members, mentoring new students, and working collaboratively within a cross-functional team

EXPERIENCE

PhD Candidate, Colorado State University, Fort Collins, CO 2017 – Present

- Developing an R-based data analysis pipeline for large flow cytometry data
- Integrating rigorous controls and feature engineering to analyze millions of cells
- 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

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

- Mining essential and robust datasets nationwide, ensuring compatible formatting for the website
- Analyzing data to create efficient scoring frameworks that optimize meaning for users
- Performing ETL (extract, transform, load) specialist role to integrate data with Azure database

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

- 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 the appropriate statistical test (t-test or Wilcox Mann-Whitney)

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

- Team lead for a group of 5 engineering students tasked with developing a smart compression sock to treat chronic venous disorders
- Developed design ideas, proposals, and presentations to sponsors and faculty advisors
- 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 Candidate in Microbiology, Immunology, and Pathology Expected Fall 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

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

PUBLICATIONS

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1. 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 Oct 21;38(45):7156-7165.
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. Costa A, **Fox A.** An Experimental Evaluation of Gar Scale Arrow Points. Journal of Houston Archeological Society. 2016;136: 23-31.
5. 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).