Maeva Fincker

maeva.fincker@gmail.com • (650) 862 - 7015 • Boston, MA
github.com/mfincker • www.linkedin.com/in/maeva-fincker

Technical Skills

Languages	Python, R, Javascript, Bash, HMTL / CSS, basic SQL
Packages and Frameworks	***Python***: Pandas, Scikit-learn, Numpy, Keras, Altair, Flask, Tensorflow; ***R*** :Tidyverse, opencyto; ***Javascript***: Vue.js, Vega/Vega-lite, basic D3.js
Machine learning	Regression and classification (random forest, SVM, deep neural networks), clustering (K-means, hierarchical), time series forecasting (ARIMA, RNN)
Tools	AWS, Git, Jupyter, Rmarkdown, Slurm, Mapbox

Experience

Health Data Fellow, *Insight Data Science,* Boston, MA — Jan. 2020 – present

- Designed 'Sweet Tweet', a Vue.js web application deployed to AWS (using nginx) that lets a user explore past and forecasted blood glucose levels (sweettweet.me) and detects 75% of impending hypoglycemic events.
- Built a pipeline in Python to wrangle, impute missing data, extract features and format more than 100,000 hours of continuous glucose monitoring (CGM) data to train time series models.
- Trained and compared ARIMA and recurrent neural network models (with Keras) to detect hypoglycemic events with a prediction horizon of 30 minutes.
- Created a Flask API service that returns forecasted glucose level values based on client-provided past data and sends SMS alerts for hypoglycemia events predicted to occur within the next half hour.

Graduate Researcher & Teaching Assistant, *Stanford University,* Stanford, CA — Jan 2013 – Dec 2019

- Implemented a metagenomic pipeline to reconstitute 31 high-quality microbial genomes from 5TB of raw NGS data on a remote computing cluster to study the metabolism of marine subsurface Chloroflexi bacteria.
- Developed a data cleaning and modeling pipeline in R using openCyto to automate the preprocessing, analysis and fitting of Gaussian mixture models to 100+ flow cytometry experimental datasets to understand the influence of growth rate on microbial cell cycle.
- Trained 3 graduate students in lab procedures, supervised research and mentored them to facilitate on-boarding as PhD student; delivered graduate-level microbiology lectures to 40 students across 4 semesters.

Projects

48-Hour ER Readmission Rates, *Stanford University,* Stanford, CA — Fall 2018

- Developed deep-learning models (feed forward and recurrent neural networks) in TensorFlow to predict readmission to the ER after discharge using EHR data from +70,000 patients from Stanford Hospital.

California Poverty Project, *Stanford Center on Poverty & Inequality,* Stanford, CA — Spring 2017

- Designed and implemented a multi-scale interactive map displaying demographic and socio-economic variables for policy makers to understand the impact of novel policies using Mapbox-gl.js
- Created a step-by-step tutorial to teach collaborators how to implement a similar map in Zambia to facilitate resource allocation for malaria prevention on the ground.

Education

PhD in Environmental Microbiology, Stanford University, CA — 2019
MS in Environmental Engineering, Stanford University, CA — 2012
BS and MS in Engineering, Ecole Centrale Paris, France — 2012