Ryan Samarakoon

513-238-2371 | samarakoon.ryan@gmail.com | github.com/samarakoon-ryan | San Francisco, CA

EDUCATION

Vanderbilt University
Master of Science in Computer Science — *Aug. 2022 – May 2024*
- Relevant Courses: Cloud Computing, Distributed Systems, Machine Learning, Quantum Computing, Software Engineering, and Web-based System Architecture.

University of Cincinnati
Bachelor of Science in Neuroscience — *Sep. 2012 – May 2016*

PROJECTS

Credit Card Fraud Detection using ROC Threshold | *Python, Pandas, Sklearn* — Oct. 2022
- Used a credit card fraud detection dataset to show how determining a probability threshold from an ROC curve can be useful for unbalanced datasets in binary classification problems.
- https://github.com/samarakoon-ryan/creditcard-fraud-detection

Modeling of NASA's Nearest Earth Objects | *Python, Pandas, Sklearn* — Aug. 2022
- Built and compared the performance metrics between three machine learning models (logistic regression, support vector machines, and k-nearest neighbors) to determine which model best predicts asteroids that are hazardous to Earth.
- github.com/samarakoon-ryan/NASANearestEarthObjectsModeling

Blogging App | *Python, Flask, PyMySQL, HTML/CSS, Bcrypt* — Aug. 2020
- Developed a full-stack web application with Flask as a REST API to simulate a twitter-like blogging app.
- github.com/samarakoon-ryan/blogging

EXPERIENCE

Research Data Analyst — May 2018 – Aug. 2022
Stanford University — *Stanford, CA*
- Performed feature engineering on 10+ years of highly dimensional retinal electrophysiological data to investigate and model the variability of retinal signaling in human and primate retinas.
- Analyzed electrical stimulus data to determine the ideal amplitude and interval needed to elicit a spike in live tissue experiments.

Research Associate — Sep. 2016 – May 2018
The Gladstone Institutes - UCSF — *San Francisco, CA*
- Analyzed RNA-seq data using dimensional reduction techniques such as PCA and t-SNE using packages in R.
- Performed DNA/RNA extractions, gene editing, and other molecular and cell biology techniques for stem cell culture experiments.

PUBLICATIONS

- Shah NP, Brackbill N, **Samarakoon R**,... Individual variability of neural computations in the primate retina. Neuron. 2022 Feb 16;110(4):698-708.
- Gifford CA, Ranade SS, **Samarakoon R**,... Oligogenic inheritance of a human heart disease involving a genetic modifier. Science. 2019 May 31;364(6443):865-870.

TECHNICAL SKILLS

Languages: Python, C++, SQL, HTML/CSS
Frameworks: Flask, Node.js
Developer Tools: Linux, Git/Github, Jupyter Notebooks, VS Code, AWS
Libraries: NumPy, Matplotlib, Pandas, Qiskit, Scikit-learn