eric liu

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Education

Brown University
Providence, RI

Computer Science and Applied Mathematics — *Expected Graduation May 2019*

sGPA: 3.67/4.00

Relevant Coursework:

(Grad.) Biostatistics & Data Analysis
(Grad.) Prescriptive Analytics
Machine Learning
Ordinary Differential Equations
Computational Molecular Biology
Computer Systems Security
Distributed Computer Systems
Modern Web Applications
Data Science

Employment

National Aeronautics and Space Administration (NASA)
Ames Research Center, CA

Stanford-Brown Researcher — *May 2016 - Nov. 2016*

- Computationally modeled the *E. coli* metabolic pathway using flux analysis for biosynthesis of a Kevlar-like fiber
- Filed a provisional patent for a novel modification of the endogenous MEP pathway in *E. coli* to produce latex

Commvault
Tinton Falls, NJ

Development Intern — *Jun. 2015 - Aug. 2015*

- Implemented arbtrary radix format preserving encryption with Feistel networks and AES round function using Java
- Masked specific data types in cloned SQL and Oracle testing databases to allow format-reliant testing of sensitive information (phone number, credit card, birth date) using JDBC

Projects

Classification and prediction of air quality based on weather

Project Co-lead — *Python, D3, AWS*

- Extracted and cleaned historical global air quality data for fine particulate air pollutants from the OpenAQ database and paired it with historical weather data
- Classified and predicted air quality by implementing different machine learning models (logistic regression, SVM, random forest)
- Predicted pollutant measurements with over 70 percent accuracy using select constructed classifiers
- Developed a web-app to predict the pollution levels for the next few days when given a specific input location

Low-cost biomarker screening for autism spectrum disorders

Lead Developer — *Javascript, Java, HTML/CSS*

- Trained classifiers on acoustic-prosodic models generated from speech samples of children diagnosed with an autism spectrum disorder and children with typical development
- Interfaced with the Project Oxford Face API to calculate biomarker strength of asymmetrical distance between facial features
- Generated a model to predict risk of autism spectrum disorder in children based on prosody and facial asymmetry

Honors & Awards

2016 Undergraduate Teaching and Research Award, Summer — *Brown University*
2016 Undergraduate Teaching and Research Award, Fall — *Brown University*
2016 Rhode Island Space Grant, Undergraduate Research Program — *Providence, RI*

Skills

Programming: Python, C, C++, R, Javascript, D3.js, Racket, Java, Bash, HTML/CSS, Unix/Linux
Database: SQL, Azure DocumentDB, Postgre SQL, MongoDB, Oracle Database
Technologies: Apache Spark, AWS, Hadoop, Git, LaTeX, FreePie
Languages: English (fluent), Mandarin (fluent)