eric liu

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Education

Brown University
Providence, RI

Applied Math - Computer Science
Expected Graduation May 2019

Relevant Coursework:

(Grad.) Biostatistics & Data Analysis
Statistical Inference
Ordinary Differential Equations
Honors Linear Algebra
Computational Molecular Biology
Modern Web Applications
Machine Learning
Data Science
Computer Systems Security
Probabilistic Models
Computer Vision

Employment

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

Stanford-Brown Researcher
May 2016 - Nov. 2016

- Biosynthesized a Kevlar-like fiber using metabolic flux analysis to design recombinant *E. coli*
- 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

- 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

- 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)