Eric Liu

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Education

Brown University *Providence, RI*

Applied Math - Computer Science *Expected Graduation May, 2019*

- **Coursework**
  Biostatistics & Data Analysis Intro to Computer Systems Statistical Inference Data Science
  Applied Ordinary Differential Equations Honors Linear Algebra Computational Molecular Biology

Employment

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

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

Stanford-Brown iGEM Researcher *May. 2016 - Present*

- Optimized pABA production using metabolic flux analysis to design recombinant *E. coli* as a way to biosynthesize a Kevlar-like polyamide fiber
- Designed and implemented novel binding domains for a collagen construct to allow recombinant bacteria to synthesize long collagen-construct chains

Technical Experience

Classification and prediction of air quality based on weather *Brown University, RI*

Project Co-lead *Feb. 2016 - May 2016*

- 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)
- Evaluated the accuracy and robustness of the different 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 *Brown University, RI*

Lead Developer *Sep. 2014 - Feb. 2016*

- 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, RI*

2016 Undergraduate Teaching and Research Award, Fall *Brown University, RI*

Skills

Programming Python, C, C++, R, Javascript, D3.js, Racket, Java, SQL, HTML/CSS

Technologies Git, LaTeX, Microsoft Office Suite, FreePie, Apache Spark (AWS)

Languages English, Mandarin