

# eric liu

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## Education

### Brown University

APPLIED MATH - COMPUTER SCIENCE

Providence, RI

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

### Commvault

DEVELOPMENT INTERN

Tinton Falls, NJ

Jun. 2015 - Aug. 2015

- Implemented arbitrary 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)

STANFORD-BROWN RESEARCHER

Ames Research Center, CA

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

## Projects

### Classification and prediction of air quality based on weather

PROJECT CO-LEAD

Brown University, RI

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)
- 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

Brown University, RI

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

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, HTML/CSS  
**Database** SQL, Azure DocumentDB, Postgre SQL, MongoDB, Oracle Database  
**Technologies** Apache Spark, AWS, Hadoop, Git, LaTeX, FreePie  
**Languages** English (fluent), Mandarin (fluent)