

SEBASTIAN LIN

EDUCATION

Duke University

B.S. Mathematics '17

Minor in Statistics

GPA: 3.42/4.0

CONNECT

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SKILLS

Languages (Experienced):

Javascript | MATLAB | Python | R

Languages (Familiar):

C++ | Java | Ruby | SQL | Swift

Web Frameworks:

Rails | MongoDB | Node.js

HTML/CSS | jQuery |

React.js | D3.js | Leaflet.js

Data Science Frameworks:

Caffe | Keras | Tensorflow | Theano

Convnet.js | Scikit-Learn | Caret

ggplot2 | Shiny | Spark | Tableau

Cloud Frameworks:

AWS | Azure | Google Cloud | IBM Watson

COURSEWORK

Data Science:

Deep Learning for Computer Vision | Deep

Learning for NLP | Machine Learning |

Energy Data Analytics | Bayesian and

Modern Statistics | Regression Analysis |

Probability | Linear Algebra

Software Engineering:

Web Application Development |

Introduction to Databases |

Data Structures & Algorithms | Computer

Architecture | Combinatorics

EXPERIENCE

Data Scientist / Software Engineer @ OPAL (Startup)

June 2016 - Present | Azure, AWS, Caffe, Python

- Startup focused on creating an **intelligent restaurant dish recommender** to deliver highly personalized dining experiences
- Created a **MongoDB database** of dish names, description and taste levels using data from **Locu** and **Yummly** APIs for 100K+ restaurants in the US and the UK
- Prototyped **recommendation algorithms** to suggest dishes based on user location and taste using **Keras**, **Azure** and **AWS**

Data Scientist / Software Engineer @ Duke Energy Initiative

Jun 2016 - Present | ARCGIS, Caffe, C++, MATLAB, Python

- Developed **region and pixel based computer vision algorithms** to detect buildings in satellite images using **MATLAB** for machine learning and **C++** for image segmentation
- Constructed a **ground-truth dataset** of satellite images, structural footprints and heights of 40000+ buildings in 7 US cities using **ARC-GIS**, **OpenStreetMap** and **LIDAR**

SELECTED PROJECTS

Expedia Business Intelligence

Mar 2017 - Present | D3.js, Gephi, Leaflet.js, Python, R, Tableau

- Visualized a network of 1M+ travel origins and destinations searches by Expedia users using **Leaflet**, **Gephi** and **Tableau**
- Performed user segmentation through **clustering** in R and extracted hotel choice **insights** based on date, travel distance and group size

News Sentiment Analysis of 2016 Elections

Feb 2017 - Present | Google BigQuery, R, GDELT

- Constructed **SQL** queries using **Google BigQuery** to extract data from the **Global Database** of Events, Languages and Tones (GDELT)
- Created sentiment **time series** analysis of news coverage of the 2016 Elections and its aftermath

Housing Price Forecaster

Nov 2016 - Jan 2017 | Azure, D3.js, Python, R

- Created **interactive data visualizations** using **D3.js**, **Tableau** and **ggviz** for housing data in Ames, Iowa
- Built prototypes of prediction algorithms using **Scikit-Learn** through **feature engineering**, **gradient boosting** and **ensemble learning**

Voice Switch @ HackDuke

Nov - Dec 2016 | Android, iOS, Google Cloud

- Created a **cross-platform mobile app** that aims to popularize smart home technology through a portable **voice-controlled switch** powered by **Google Cloud Speech**

Chaos Modeling & Muon to Electron Conversion Detector

Jan - Apr 2016 | Python

- Modeled chaotic dynamics of double pendulum using **Python**
- Built a proof of concept circuit capable of detecting muon to electron (Mu2e) conversions currently used in **Beyond Standard Model** physics research at **Fermilab**

Boggle Player

Jan - Apr 2015 | Java

- Implemented **binary search**, **trie** and **compressed trie** algorithms in **Java** to search through the English lexicon for valid words found on Boggle boards