Brian Luc

http://brianluc.com
luc2@illinois.edu | 847.767.5828

EDUCATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN
B.S in Computer Science
Expected May 2019 | Urbana, IL
Major GPA: 4.00
Cum. GPA: 3.96
Dean's List | James Scholar

LINKS

Github:// **bluc41**
LinkedIn:// **brianluc41**
Website:// **brianluc**

COURSEWORK

UNDERGRADUATE
Applied Linear Algebra
Differential Equations
Discrete Math
Systems Programming
Data Structures
Advanced Data Science
Artificial Intelligence
Machine Learning
Probability and Statistics
Audio Computing Lab
Algorithms
Numerical Methods
Stanford CS 231n
ML for Signal Proc. (FA 2019)

SKILLS

LANGUAGES
Java • Python • JavaScript
Go • C/C++ • Clojure
HTML/CSS • Matlab • SQL

FRAMEWORKS
Node.js • Express.js • Play
Spring • Numpy/Pandas
Enlive • Mocha.js • Chai.js
Mongoose.js • Jooq
PyTorch • Tensorflow

DEVOPS
Unix/Bash • Git • Subversion
Docker • Vagrant
SumoLogic • Arc

DATABASES + CACHES
AWS DynamoDB • MySQL
MongoDB • Redis • Hive

EXPERIENCE

UBER | Software Engineering Intern
May 2018 - August 2018 | San Francisco, CA

- Trained and tested Convolutional LSTM model for spatio-temporal quantile regression and built associated feature pipeline for Marketplace Matching
- Developed transformation from hexagonal geospatial system to cartesian grid and associated hexagonal convolution to capture spatial dependencies
- Implemented using PyTorch, Tensorflow, Hive, Redis, and Java

QUALTRICS | Software Engineering Intern
May 2017 - August 2017 | Provo, UT

- Designed and implemented new Embedded Data service with improved performance and scaling for Target Audience team
- Built and compared the performance of different data models, data stores, languages, and concurrency models
- Achieved up to 15x speedups with Go and DynamoDB compared to original Java Spring and MySQL implementation

RESEARCH

VIDEO AND AUDIO STITCHING | 2017 | Paris Smaragdis

- Program that creates video matrix of synchronized concert clips with different camera angles
- Used landmark cross-correlation based on spectrogram peaks for clustering and synchronization of clips, and 2D Bi-LSTM for spectral denoising for overlapping audio

MULTI VIEW NETWORKS FOR DENOISING | 2018 | Jonah Casebeer | Paris Smaragdis

- Created end to end model that takes in a variable number of noisy sources of the same event and outputs a clean signal
- Built a neural network with a STFT frontend, a Bidirectional 2D LSTM, and a iSTFT backend, all using PyTorch
- Co-first author for paper accepted by the 2018 International Workshop on Acoustic Signal Enhancement

PROJECTS

PIGGY BANK | BoilerMake 2017 | Top 10 Submissions

- Augmented reality app that helps users set and reinforce good habits through collecting location-specific virtual tokens
- Wrote the backend using Node.js, Express.js, Mongoose.js, and Python

TITANIC SURVIVORS | Kaggle 2017

- Kaggle competition to classify Titanic passenger survival
- Implemented a Stacking classifier with 5 base learners and Gradient Boosting (XGBoost) to achieve 89% accuracy

GRAPEVINE | 2016

- Mobile app that allows users to find and post social events near them
- Worked on RESTful API backend using Node.js, Express.js, and MySQL
- Used Google Places API to cluster user locations into single entities