Zexi Han

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EDUCATION

Northeastern University (NU)

Boston, MA

M.S. in **Data Science**, GPA: 3.9

Jan 2017-May 2019

Relevant Courses: Algorithms, Machine Learning (TA), Web Development, Computer Vision, Parallel Data Processing Beijing University of Posts and Telecommunications (BUPT), Joint Program with QMUL Beijing, China

B.S. in **Telecommunications Engineering** with the First Class Honors, GPA: 3.5

Sept 2012-Jun 2016

Relevant Courses: Data Structures, Software Engineering, Calculus, Linear Algebra, Principles of Communications Awards: BUPT Outstanding Final Project (Rank 12/680)

TECHNICAL SKILLS

Languages: Python, Java, Scala, JavaScript, SQL, R, MATLAB

Web App Dev: React, Redux, Bootstrap, jQuery, Node.js, Express, Spring Boot, MySQL, JPA, MongoDB, mongoose Tools: MapReduce, Spark, AWS, Tableau, Pandas, scikit-learn, Tensorflow, PyTorch, Docker, D3.js, Git

PROFESSIONAL EXPERIENCE

Data Scientist Co-op at Rue Gilt Groupe (Boutique Retailer) – Reseller Identification

Jan 2018-Jun 2018

- Worked on feature engineering and <u>XGBoost</u> model training from an iterative perspective to identify resellers from over 2 million buyers, and put it into production to provide them with personalized boutique recommendations.
- Built docker apps for feature extraction, training and inference which were deployed to <u>Amazon ECS</u> and <u>Airflow</u>.
- Maintained daily <u>ETL</u> process for the recommendation system with <u>robust SQL</u> on <u>Snowflake</u>.

Research Assistant at National Laboratory of Pattern Recognition - Visual Search

Aug 2015-May 2016

- Designed and built a Three-stage Hybrid <u>Visual Search</u> Framework (Classification, Object Detection and Matching) to the task of same-style product image retrieval with convolutional neural networks.
- Experimented on the Taobao 5 million product image dataset with multiple <u>CNN</u> models using <u>Caffe</u>.
- Developed the backend of <u>Android</u> demo and achieved real-time same-style product image retrieval.

PROJECT EXPERIENCE

TripElf - Interactive Map with Neighborhood-Level Airbnb Review Summarization, NU

Jan 2019-April 2019

- Proposed and developed an application to help travelers pick their favorite short-term rental neighborhoods before traveling by demonstrating the machine-generated overviews of the neighborhoods.
- Explored and applied various text models, such as <u>KL-Sum</u>, <u>LDA-Sum</u> and <u>ELMo</u>, to summarize Airbnb reviews and generate neighborhood overview from travelers' viewpoint.
- Implemented an interactive map web app in <u>React</u> and <u>Mapbox GL JS</u> for data visualization, drawing travelers a vivid picture of NYC neighborhoods, including descriptive statistics such as entertainment, expense, transit, noise and safety.

TuneS - Social Music Web App, NU

Jan 2019-April 2019

- Developed a web app with <u>MERN</u> stack that serves for music fans to engage with other music lovers and discover new songs and artists with <u>Spotify Web API</u>.
- Handled authentication, like/share/follow functions with <u>RESTful</u> APIs built in <u>Express</u> and <u>MongoDB</u> back-end.
- Designed and programmed a responsive React front-end utilizing Bootstrap and AJAX techniques.

Parallel Matrix Multiplication in MapReduce, NU

Oct 2018-Dec 2018

- Studied and implemented the different parallelization mechanisms for large matrix multiplication in <u>MapReduce</u>, including Horizontal-Vertical Partitioning and Vertical-Horizontal Partitioning for synthetic dense and sparse matrices.
- Measured and compared speedup and scalability performance for the two <u>intelligent partitioning</u> methods on <u>Amazon EMR</u> and <u>S3</u> with different settings of the cluster.

Business-Neighborhood Interaction on Yelp and Census Data, NU

Sept 2017-Dec 2017

- Extracted representative neighborhood-level features of business dynamics from Yelp dataset.
- Employed <u>K-Means</u> and <u>GMM</u> clustering at both the Zillow Neighborhood and Census Tract level to identify clusters based on population characteristics and socioeconomic metrics.
- Investigated the relationship between local business dynamics and neighborhood characteristics.