zexihan.com/portfolio
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Zexi Han

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EDUCATION

Northeastern University (NU) Boston, MA
*M.S. in **Data Science**, GPA: 3.89* 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, 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 XGBoost 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 Amazon ECS and Airflow.
- Maintained daily ETL process for the recommendation system with robust SQL on Snowflake.

Research Assistant at National Laboratory of Pattern Recognition – Visual Search Aug 2015-May 2016

- Designed and built a Three-stage Hybrid Visual Search 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 CNN models using Caffe.
- Developed the backend of Android demo and achieved real-time same-style product image retrieval.

PROJECT EXPERIENCE

TripElf - Interactive Map with Neighborhood-Level Airbnb Review Summarization, NU Jan 2019-Present

- 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 KL-Sum, LDA-Sum and ELMo, to summarize Airbnb reviews and generate neighborhood overview from travelers' viewpoint.
- Implemented an interactive map web app in React and Mapbox GL JS for data visualization, drawing travelers an vivid picture of NYC neighborhoods, including descriptive statistics such as entertainment, expense, transit, noise and safety.

Feedback Collection Fullstack Web App, NU Nov 2018-Feb 2019

- Developed a web app with MERN stack that serves for startup owner's app/service by sending customer an email requesting feedback and tabulating survey results to the user.
- Handled authentication, payment and automated emails with RESTful APIs in Express and Node.js back-end.
- Designed and programmed an interactive React and Redux front-end utilizing AJAX technology.

Parallel Matrix Multiplication in MapReduce, NU Oct 2018-Dec 2018

- Studied and implemented the different parallelization mechanisms for large matrix multiplication in MapReduce, including Horizontal-Vertical Partitioning and Vertical-Horizontal Partitioning for synthetic dense and sparse matrices.
- Measured and compared speedup and scalability performance for the two intelligent partitioning methods on Amazon EMR and S3 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 K-Means and GMM 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.