Runyu Zhang

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Education

Cornell University Aug. 2015 – Dec. 2016

Master of Engineering in Electrical and Computer Engineering (GPA: 3.72/4)
Courses: OO Programming and Data Structures, Web Design, Database Systems, Machine Learning, Operating Systems, iOS development.

University of Electronic Science and Technology of China Sep. 2011 – Jul. 2015

Bachelor of Science in Measurement and Control Technology and Instrumentation (GPA: 3.85/4)

Research Experience

Cornell University Jul. 2016 – Oct. 2016

Research Assistant, School of Electrical and Computer Engineering

- Implemented a web crawler in Python which searched for keywords and fetched LinkedIn profiles of Cornell alumni graduated from Electrical and Computer Engineering department (Python, HTML)
- Processed the data to remove duplication and verify data by comparison with ECE department data
- Built MySQL databases of Cornell ECE alumni which combined with the department database (SQL, Python)

Project Experiences

Website Design Project (HTML/CSS, JavaScript) Nov. 2016 – Dec. 2016

- Designed a website that provided information of Apple Harvest Festival
- Designed the style for the site in CSS and implemented slideshow gallery for images in JavaScript

Database Systems Projects (Java, Hadoop, SQL) Mar. 2016 – May 2016

- Implemented MapReduce framework on Hadoop to process the file which converged in 10 rounds, 2 mappers and 2 reducers were used
- Realized BPlusTree structure that had comparable keys which were sorted in the nodes in Java
- Built a graph database in Neo4j with 3 types of nodes and relationships

Machine Learning Data Category Project (Python, Java) Apr. 2016 – May 2016

- Realized dimension reduction for the data of 1829 projects and built an undirected graph
- Applied unsupervised learning methods including K-Means and Spectral Clustering algorithm to divide the data into 2 groups

Data Compression Projects (Python) Oct. 2015 – Apr. 2016

- Applied LZ78 lossless compression algorithm to realize compression and decompression of text file and the compression rate is less than 50%
- Realized lossy compression and decompression for audio file and the distortion rate is less than 10%
- Implemented and modified LOCO-I algorithm to randomly generate sequences which were decoded to image

Programming Skills

- Programming Languages: Java, HTML/CSS, SQL, JavaScript, Python, PHP, Swift.
- Technical Knowledge: algorithms, data structure, databases, web development, jQuery.