Hannah Zhang

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SKILLSET

Programming
- Python
- JavaScript
- Java
- C
- MySQL
- PHP
- Ruby
- HTML/CSS

Frameworks/ Libraries/APIs
- AngularJS
- jQuery
- Bootstrap
- Scikit-Learn
- MapReduce
- RESTful
- Slim
- TensorFlow

Tools/Platforms/Cloud/Other
- Jupyter
- Hadoop
- Git
- Amazon EMR
- Linux

PROJECTS

Wireless Sensor Network Model (JavaScript, jQuery, HTML/CSS)
- Modeled Wireless Sensor Networks using Random Geometric Graph to simulate the selecting of communication backbones in WSN in linear time through applying Smallest-Last Coloring algorithm.
- Visualized the process as an interactive web application using JavaScript, jQuery and HTML5 Canvas.
- Displayed statistic information using CanvasJS API.

Product Inventory Manager (JavaScript, AngularJS, SQL, PHP)
- Developed a manager where users can manage products in inventory by breaking real-world problems down into manageable steps, and designing in MVC pattern.
- Implemented using AngularJS, Bootstrap UI for product edit, PHP Slim to create data provider / RESTful API and MySQL for the database.

Movie Recommendation System (Python, MRJob, Amazon EMR)
- Performed Item-based Collaborative Filtering on MovieLens dataset using MRJob in Python as the interface for Hadoop to handle with MapReduce tasks.
- Analyzed 1 million movie ratings across 16 machines on Amazon Elastic MapReduce to find similarities among movies for the recommendation.

Wine Quality Prediction - Machine Leaning (Python, Scikit-Learn, Pandas)
- Provided guidance to vineyards regarding quality and price expected on products without reliance on volatile factors.
- Performed exploratory analysis, data cleaning and preprocessing using Pandas, Scikit-learn and Seaborn.
- Created multilayer perceptron to identify wine of good quality, tuned hyperparameters and evaluated generalization performance using Scikit-learn.
- Implemented in the Jupyter notebook using Python, Scikit-learn, NumPy, Pandas, Matplotlib, and Seaborn.

Suggestion Box (JavaScript, AngularJS, Bootstrap)
- Aimed to implement a web application where users can vote, write and comment on suggestions to help managers gather opinions on specific problems.
- Developed using Bootstrap and AngularJS.
- Debugged and tested using Chrome DevTools and http-server node package for NPM.

Interactive Product Design - Streams (UI/UX, Proto.io)
- Collaboratively developed UI/UX to create an integrated platform providing users greater control over multiple social media feeds.
- Adopted guidelines to gather requirements, write user stories, created user journey, hand-drawn wireframes and converted into a hi-fi prototype on Proto.io.

EDUCATION

Southern Methodist University (GPA: 3.73/4)	M.S. in Computer Science	09/2016 - Present
Soochow University	M.S. in Electrical Engineering	09/2011 - 07/2014
Xi'an University of Posts and Telecoms	B.S. in Electrical Engineering	09/2007 - 07/2011

WORK EXPERIENCE

Electronics Assembly Technologist Shanghai Aerospace Equipment Manufacturer 07/2014 - 07/2015

Hardware Testing Intern Institute of Acoustics, Chinese Academy of Sciences 03/2013 - 12/2013

Participated in MEMS Accelerometer Servo ASIC Development and designed the testing system, based on FPGA and NIOS II soft core using Verilog and C, for performance analysis of accelerometer in structural health monitoring.

PUBLICATION

MEMS Analog Feedback Acceleration Sensor and its Testing, Technical Acoustic

PATENTS

A Serial Bus Communication Bridge, Patent Number: 201420121985.9

CERTIFICATION

Google Analytics IQ

Business English Certificate, Vantage