

# Hannah Zhang

469-450-6859

han.zhang1129@gmail.com

zzz-icy.github.io

Dallas, TX 75206

## SKILLSET

<b>Programming/DB</b>	• Python 3	• ES6 JavaScript	• Java	• C	<b>Tools/Platforms/Cloud/Other</b>	
	• MySQL	• MongoDB	• Ruby	• HTML5/CSS3		
	• Angular 2	• jQuery	• Bootstrap	• Express		
<b>Frameworks/ Libraries/APIs</b>	• Node	• REST API	• MapReduce	• Splunk	• Linux	• Microservice

## PROJECTS

### Wireless Sensor Network Model (JavaScript, jQuery, HTML/CSS, try on zzz-icy.github.io!)

- Modeled WSN using Random Geometric Graph to simulate the selecting of communication backbones in WSN in linear time through applying Smallest-Last Coloring algorithm and data structures.
- Visualized the process as an interactive web application using JavaScript, jQuery and HTML5 Canvas.
- Displayed statistic information using the CanvasJS API.

### Vidjot (JavaScript, AngularJS, Node, Express, MongoDB)

- Jotting down the idea of your next YouTube video.
- Developed the client side using the template engine, handlebars.js. Implemented local authentication with Passport.
- Created users and ideas models with Mongoose ODM.
- Implemented a dashboard UI for users to manage their ideas using Bootstrap nav-bar. Prepared and deployed the app to production with Heroku.

### 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 Learning (Python, Scikit-Learn, Pandas, TensorFlow)

- Provided guidance to vineyards on 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 wide and deep NN to identify wine quality, tuned hyperparameters and evaluated generalization performance through cross-validation using Scikit-learn and TensorFlow.

### Product Inventory Manager (JavaScript, AngularJS, NodeJS, MongoDB, REST)

- 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, NodeJS to create data provider / REST API and MongoDB for the database.

### 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 - 05/2018
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

<b>Electronics Assembly Technologist</b>	Shanghai Aerospace Equipment Manufacturer	07/2014 - 07/2015
<b>ASIC Testing Intern</b>	Institute of Acoustics, Chinese Academy of Sciences	03/2013 - 12/2013
<ul style="list-style-type: none"><li>Participated in MEMS Accelerometer Servo ASIC and development and designed the testing system, based on FPGA and NIOS II soft core using Verilog and C.</li><li>Successfully assisted in providing data proof for design improvement of the Servo ASIC through performance analysis of accelerometer in structural health monitoring.</li></ul>		

## 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