Jiawei Gu

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Education

01/2017-05/2018

    MS, Computer Science; University of Texas at Dallas(UTD); **3.91/4**

08/2013-12/2016

    MS, Bioinformatic; University of Texas at Dallas(UTD); **3.73/4**

Relevant Coursework

• Artificial Intelligence • Computer Architecture • Design & Analytics Computer Algorithm

• Object-Oriented Analytics & Design • Operating System Concepts

• Software Defined Network • Web Programming Languages

Proficient Skills

Computer languages

    Python, Java, JavaScript, C++, R, SAS, SQL, PHP, Bash

Web stack

    MEAN stack (MongoDB, Express JS, Angular JS, Node.js), Java Spring

Deep Learning Framework

    TensorFlow, Keras

Certifications

    SAS Certified Base & Advanced Programmer for SAS 9

    edX Verified Certificate for Big Data Analysis with Apache Spark

    Coursera Deep Learning Specialization

Academic Projects

Advanced Load Balancer for SDN, UTD 01/2018-05/2018

- Designed and coded load balancers for **Software Defined Network(SDN)**
- Defined the virtual network topology on **miniNet**
- Used the **POX** controller to control the packet flows on **vSwitches**
- developed the Statefull/Stateless random/Weighted Round Robin load balancers

TreasurePanning Online Auction Site, UTD 08/2017-11/2017
- Built an online auction site with **MEAN** stack
- Coded a backend server on **Node.js** with **Express JS** framework
- Designed and implemented a frontend one page web application using **AngularJS 1.4**
- functions include user authorization, post item, bid item, wish list, bid history, send message to administrator, and an administrator account to manage/soft delete user, item and biding
- Set a dedicated **MongoDB** server, and store everything except html in the database

CometSale Online Sale Site, UTD 08/2017-11/2017
- a team project developed under **Agile Unified Process** development framework
- Built an online sale system with **Java spring MVC** framework
- Users can post their selling posts in the system.
- All the data are stored in an dedicated **MongoDB** server

Five-In-a-Row Game Development, UTD 01/2017-05/2017
- Designed a Game UI with **libGDX** library in **Java**
- Built an evaluation function to estimate broad for each player
- Adapted alpha-Bate tree pruning algorithm as **AI** agent

Group-User Restaurant Recommendation System, UTD 08/2016-12/2016
- Designed and implemented a real-time restaurant **recommendation system** based on users' location
- Applied **ALS algorithm** implemented by **Spark** to predict user's preference to restaurants
- Connected to **Google Map's API** to get distance and estimate each user's travel time
- Presented a recommendation list based on **machine learning** predicted score and location

Boat rental database design project, UTD 09/2015-12/2015
- Designed **EER diagram** to represent requirement of Boat rental management system
- Mapped EER diagram to relational schema by **MySQL** workbench Populated database system and coded functional procedures

Experience

Research Assistant, Biology Department, UTD 01/2014-12/2016

- Machine Learning Prediction for RNA-chromosome interaction, UTD
  - Wrote a **Bash script** to collect genomic and epigenomic data from **online resources**
  - Built a pipeline in Bash and python to preprocess collected data
  - Coded a **Random shuffle** program to generate negative training data set
  - Applied **SVM**(support vector machine) on collected data set to generate a model
- DNA Sequencing Analysis of Brg1 in Cancer Cell, UTD
  - Built pipelines for data process and ChIP-seq analysis using Linux bash shell
  - Implemented a protein binding motif scan and enrichment analysis program in R
  - Analyzed and Visualized data in **R** and **Python**
  - **Article publication**: Shi, X., et al. "SMARCA4/Brg1 coordinates genetic and epigenetic networks underlying Shh-type medulloblastoma development." Oncogene (2016).

Teaching Assistant, Biology Department, UTD 01/2014-12/2016

- Assisted instructors to organize student experiment and lecture
- Communicated with students to help them understand materials and answered their questions