Mr. Jiazhen Zhu

JIAZHEN ZHU

(202) 802-3368 • McLean, VA, USA • jason.jz.zhu@gmail.com

EDUCATION

THE GEORGE WASHINGTON UNIVERSITY, School of Engineering and Applied Science **Washington, DC**
Master of Science (M.S.) *Jan 2013 – August 2014*

- Areas of focus: Data Mining, Database Management Systems, Design & Analysis of Algorithm

SHANGHAI UNIVERSITY, School of Computer Engineering and Science **Shanghai, China**
Bachelor of Science (B.S.) *Mar 2007 – Mar 2011*

- Research Assistant
- IT Internship at Price Waterhouse Coopers

EXPERIENCE

NET ESolutions **Mclean, VA, USA**
NETE
Data Engineer *June 2014-Present*

- **Data Engineering.**
  - Lead the Data Engineering team to process the projects about data infrastructure.
  - Tune algorithm and query performance based on large dataset.
  - Designed and improved the data warehouse/data market.
  - Designed and improved the data lake.
  - Automated process of extract, transform, clean and load (ETL) or (ELT) data using *Python, Spark, Cassandra, Kafka, RedShift, DAGs, and Airflow*.
  - Automated process of checking the Data Quality using *Python* scripts.
  - Integrated *Data Pipeline* on AWS.
  - Used *Python* to analyze queries to create a *JSON* files which was used in the Front-End and *D3's* resource.
  - Created the version control system for database to track the change data using *Python*.
  - Migrated tables from *MS-SQL* database to *MySQL* database.
  - Migrating tables from *MS-SQL* database to *PostgreSQL* database.

- **Data Analytics.**
  - Using *Python, SQL and Jupyter Notebook* to do *description analysis*.
  - Designed dashboards to show the data using *D3* and *Tableau*.
  - Analyzed security incidents and vulnerability data and developed algorithms to estimate security status (priority, severity, alert and mitigated on-time) and for better mitigating risks and protecting institute.
  - Developed near real-time info-security data application which can recommend solution based on million data.
  - Using *Linear Regression, Logistic Regression, SVM, KNN* to do the prediction for budget data.

- **Web Development.**
  - Used PERN (PostgreSQL, Express, React, Node) to create Data Viz Site based on D3 and RESTful API.
  - Using *AngularJS* to create a single application website based on RESTful API.

Data Discovery Lab **Mclean, VA, USA**
TTU
Research Assistant *May 2018 – Present*

- **Cotton Prediction.**
  - Collected, cleaned and integrated different data sources including soil topographic attributes, spectral data, normalized difference vegetation index and weather data into one data source.
  - Designed the baseline algorithms based on the cleaned data.
  - Design the Data Viz to support our algorithm's performance based on the result of metrics.
- **Coordinating Disaster Emergency Response with Heuristic Reinforcement Learning.**
  - Used Twitter API to collect the raw tweets (25,945,502) from Aug 23, 2017 to Sept 5, 2017.
  - Categorized the raw Tweets into Harvey related tweets (173,315) and Non-Harvey tweet.
  - Categorized Harvey related tweets into volunteer tweets (13,953) and victim tweets (16,535).

- Design the Data Viz to support our algorithm's performance based on the result of metrics.

CSTS / CSC (China) **Shanghai, China**
Citigroup / CSC
Software Engineer *Mar 2011 – Dec 2012*

- **Small Financial System.**
  - Developed and maintained Banking Authorization Front-End System, using COBOL and PL1, in Hong Kong and Belgium team, leading to 9% and 12% decrease in error issues in that two countries.

- **Business Intelligence.**
  - Transferred, maintained and reported big data to biz in the Vietnam team. Data migration is from old data model to new platform using Datastage and EXEL, leading to increase efficiency for extracting data.

Multimedia Technology Lab **Shanghai, China**
Shanghai University
Research Assistant *Jan 2009 – Mar 2011*

- **Face Recognition.**
  - Developed the User Interface and background application to assemble a system of face recognition using Dynamic Link Library (DLL) which was developed by other colleagues.

- **Image Quality Assessment Algorithm.**
  - Created a novel reduced-reference IQA algorithm to increase precise of image recognition and lower computation complexity. The new algorithm was implemented by the system of face recognition, leading to a 15% increase in face recognition and 10% decrease in timing costs.

MERITS

Publication: Long Nguyen, Jiazhen Zhu, Zhe Lin, Hanxiang Du, Zhou Yang, Wenxuan Guo, and Fang Jin: Spatial-temporal Multi-Task Learning for Within-field Cotton Yield Prediction. In: The 23rd Pacific-Asia conference on Knowledge Discovery and Data Mining (PAKDD), Accept rate 24.7%. April 14-17 2019.
Jiazhen, Zhu, Yuchun, Fang, Pengjun, Ji, Abdl, Moad-EL, Wang, Dai: RRAR: A novel reduced-reference IQA algorithm for facial images. In: Image Processing (ICIP), 2011 18th IEEE International Conference on, pp. 3313-3316 (2011)

Community: the volunteer of Expo 2010 Shanghai