

Zhao Liu

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EDUCATION

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

M.S. IN AUTOMATED SCIENCE (GPA:3.80/4.33)

Aug. 2019 - Exp. May 2021

- Teaching Assistant: Algorithms and Advanced Data Structures.
- Relevant Courses: Cloud Computing, Machine Learning, Web Apps, Computer System, Algorithms, Automated Lab & research.

Jacobs University Bremen, Dept. of Computer Science & Electrical Engineering

Bremen, Germany

B.S. IN COMPUTER SCIENCE (GPA:3.56/4.00)

Aug. 2015 - May 2018

- Teaching Assistant: Programming Lab in C; Programming Lab in Python; Electrical Engineering Lab.
- Core Courses: Linear Algebra, Probability, Computer Network, Computer Graphics, Functional Programming, Image Analysis.
- Awards: Merit-Based Scholarship.

WORK EXPERIENCE

Carnegie Mellon University, Digital Transformation & Innovation Center

Pittsburgh, PA

RESEARCH ASSISTANT

May 2020 - Aug. 2020

- Provide PwC Advisory's clients with solutions for analyzing Industry IOT security risk as a 3rd party collaborator.
- Performed ETL on network and security data and loaded the data into Elasticsearch database using Logstash script.
- Develop visualization dashboards using Kibana to help detecting anomalies and potential compromise.

Infervision, Infrastructure Team

Beijing, China

SOFTWARE ENGINEER

Aug 2018 - May 2019

- Designed & implemented a deploying and monitoring infrastructure for the company's AI solution using Django/Docker, to provide easy configuration and better security, ultimately reducing the time and cost of onsite maintenance by over 40% among over 350 hospitals.
- Built and optimized companies GPU clusters and GPU resources management systems using Flask/Kubernetes.
- Integrated Single Sign-On authentication and authorization methods to the company's internal services.

PROJECTS

High Performance Twitter Analytics Web Service

Pittsburgh, PA

FINAL PROJECT FOR CLOUD COMPUTING, CARNEGIE MELLON UNIVERSITY

Jan. 2020 - May. 2020

- Performed ETL on TB twitter dataset and loaded the data into MySQL and Hbase that deployed on AWS.
- Implemented queries for calculating the interaction scores between users and trending phrases by calculating the TF-IDF scores of topic words.
- Deployed a RESTful web services with auto-scaling policies to provide better availability and low response time when handling massive requests.

Scotty3D (<https://github.com/zhaoliu1996/Scotty3D>)

Pittsburgh, PA

FINAL PROJECT FOR COMPUTER GRAPHICS, CARNEGIE MELLON UNIVERSITY

Sep. 2017 - Dec. 2017

- Created a polygon-based mesh editor with geometry manipulation with Half-Edges data structure using C++
- Implemented a realistic ray-tracing using Monte Carlo methods and global illumination

VR Data visualization

Bremen, Germany

THESIS PROJECT, JACOBS UNIVERSITY BREMEN

Jan. 2018 - May 2018

- Designed and implemented a virtual reality software visualizing high dimensional data using python, Unity and Google Glasses
- Compared visual results with other high dimensional data visualization methods including 2d matrix plot and explored how dimensional reduction methods including PCA and t-SNE help the visualization.

SKILLS

Programming Languages	Proficient in C/Java/Python, Familiar with C++/Golang/Haskell/Asm-x86
Web Development	HTML/CSS/Javascript/Nginx/Django/Spring Boot
Distributed/Parallel	MapReduce/Spark Cloud Computing: AWS, Azure, GCP
Tools	Docker/Kubernetes/Terraform
Database	MySQL/MongoDB/Apache HBase/Elasticsearch