Ziqi **TANG**

Software Engineer

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EDUCATION

University of Pittsburgh — *Pittsburgh, PA, USA*

M.S. in Information Science, GPA 3.86 — *Aug. 2018 - Exp. May. 2020*

Database, Web Technologies, Client-Server System, Cloud Computing, E-Business, Human Factors in Systems

Central South University — *Changsha, China*

B.S. in Internet of Things, GPA 3.68 — *Sep. 2014 - Jun. 2018*

Operating System, Compiler, Data Structure, Algorithms, Computer Networks, Wireless Networks, Database, Sensor Technologies, Distributed System

SKILLS

Languages	Python, JAVA, C/C++, Go, JavaScript, HTML, CSS, Erlang, Scala, LaTeX
Environment and Framework	Node.js, Flask, Django, Vue.js, Angular, Spring, JSF, Caffe, TensorFlow, MXNet, OpenCV, Hadoop, Spark
Systems and Tools	Linux, macOS, Windows, Android, MySQL, MongoDB, CouchDB, Cassandra; Git, Docker, Kubernetes, AWS

EXPERIENCE

Digital Vision and Entertainment Lab, Chinese University of Hong Kong — *Shenzhen, China*

Software Engineering Intern — *Mar. 2018 - May. 2018*

- Optimized gateways performance by configuring Linux files; deployed projects on multiple nodes in **Docker Swarm**
- Investigated Image Recognition and Segmentation: R-CNN, YOLO, SSD; optimized an Instance Segmentation algorithm of segmenting baby portrait by **MXNet**, with precision of *0.95* and cost of *1.0 s/image* on average
- Designed an algorithm to make transition from foreground (baby) to background much more natural with **OpenCV**
- Implemented a website for semi-automatically labeling portrait images with **Django**; developed a **crawler** to acquire raw data

Briup Technology, Inc. — *Kunshan, China*

Software Engineering Intern — *Jun. 2017 - Jul. 2017*

- Designed and optimized an auto-car transportation system by dividing it into *3* layer: application layer for Client and Server, network layer for communication by **TCP**, and sensor layer connected by ZigBee
- Designed road map and implemented operations of setting destinations, tracking location, controlling speed and monitoring traffic by **Qt**
- Implemented Server side functions like interacting with Clients, collecting data and giving orders to lower systems, managing traffic flow by **Java**
- Implemented car features like automatically tracking paths, avoiding obstacles, detecting traffic lights by programming with **C**, STM32, RFID

PROJECTS

Hotel Booking System — *Pittsburgh*

Independent Project — *Jan. 2019 - Apr. 2019*

- Designed and Built different modules with **MVC** concept of **Spring**, including Search Engine and Recommendation System
- Enhanced security of the system by implementing **HTTPS**; enhanced performance of operating data by using **EJB**, **JPA**; solved concurrency problems from multiple data sources by using **XA transactions**
- Stored log on the cloud built by **Hadoop** on **Kubernetes**. Processed and analyzed log data by **Spark RDD**

Postify Music — *Pittsburgh*

Core Member — *Oct. 2018 - Nov. 2018*

- Designed the social platform to publish feeds, listen to recommended music, add friends, and chat online or offline, etc
- Implemented *40+* **RESTful** APIs on the Server side by **Node.js**, using **Alibaba OSS** for storing streaming media file on the cloud, **MongoDB** for storing text data, **JSON Web Token** for access verification, **WebSocket** for full-duplex communication
- Developed neat and well-formed front-end separate from back-end by **Vue CLi**, implementing *20+* components like homepage, music player, friends lists, etc.

GreenLife, An Online Market — *Pittsburgh*

Group Leader — *Oct. 2018 - Dec. 2018*

- Provided functions such as searching and purchasing items, checking history; developed another interface for administrators to manage data
- Developed server side with **Flask**, **WTForms**, **Session**; stored and operated data with **MySQL** CRUD and Transaction; built front-end by **JQuery**
- Enhanced performance during concurrent requests by using **coroutine** of **Gevent**; Added functionality like **Hot swapping**, **Reverse Proxy**

Aid Diagnosis System — *CSU AI Lab, Changsha, China*

Member — *Mar. 2017 - Aug. 2017*

- Achieved an IoU of *0.839* by applying Fully CNN to brain tumor segmentation; Trained data in **AWS**
- Investigated several Data Mining methods and designed a Predictive Clustering Tree for medical text classification to predict patients' diseases, with precision of *0.67*