

TIANLONG ZHANG

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Salt Lake City, Utah

EDUCATION

University of Utah, Salt Lake City, Utah Master of Science in Electrical and Computer Engineering Courses: Advanced Algorithms, Visualization for Data Science, Machine Learning, Deep Learning, Image Processing, Optimization	<i>2018/08 - 2020/05</i> <i>GPA:3.914/4.0</i>
Beihang University, Beijing, China Master of Science in Control Theory & Engineering	<i>2015/09 - 2018/04</i> <i>GPA:85.49/100</i>
Northwestern Polytechnical University, Xi'an, China Bachelor of Science in Automation	<i>2011/09 - 2015/06</i> <i>GPA:85.67/100</i>
Feng Chia University, Taichung, Taiwan Course-work Exchange student in Automatic Control Engineering	<i>2013/02 - 2013/06</i> <i>GPA:4.0/4.0</i>

WORK EXPERIENCE

Software Engineer <i>Galileo Financial Technologies</i>	<i>2020/05 - Current</i> <i>Salt Lake City, Utah</i>
<ul style="list-style-type: none">Developed RESTful API endpoints in Python using Flask for bank account management.	
Research Assistant <i>Supervised by Dr. Mostafa Sahraei-Ardakani</i>	<i>2019/06 - 2020/05</i> <i>University of Utah</i>
<ul style="list-style-type: none">Implemented a reinforcement learning algorithm with Python3 to predict the optimization results for the power outage caused by hurricanes.Developed a linear programming optimization algorithm for the Grid Optimization competition and our Method got 13th (out of 30 teams) place across the US at the intermediate milestone.	
Graduate Assistant <i>Supervised by Dr. Tolga Tasdizen</i>	<i>2018/10 - 2019/05</i> <i>University of Utah</i>
<ul style="list-style-type: none">Developed a data processor with Python3 to convert OData from VikingXML with mosaic space from University's hospital database to the local computer.Developed a refined U-net with Tensorflow that only focus on the labels that annotated.Achieved more than 70% accuracy on 2000 pictures while the annotation of the correct membrane is very limited to learn.	
Product Manager <i>Cheetah Mobile</i>	<i>2018/04 - 2018/07</i> <i>Beijing, China</i>
<ul style="list-style-type: none">Wrote SQL script to retrieve marketing data and analyze the data of the Cheetah Keyboard theme.Performed AB test on the upcoming keyboard theme and following the data with the programs developed by Cheetah Mobile after the theme is launched.Found dynamic solutions to optimize the low-performance keyboard themes with better customer feedback.	

PROJECTS

Data Visualization for Wasatch Climber Survey

2019/09 - 2019/11

<https://tianlongz.github.io/dataviscourse-pr-climbersurveyvis/>

Salt Lake City, UT

- Developed a visualization website for Wasatch Climber Survey with more than 700 participants using **HTML, CSS, JavaScript** as front-end tools.
- Developed an aggregated data structure for general survey data and pre-processed the raw data into our data structure.
- Used **Bootstrap4** to set up the layout (Jumbotron, Navbar, Dropdown etc.) of webpage, and used **D3** to visualize and render data with multiple perspectives, like heat map, scatterplot, beeswarm etc.

Vehicle Tracking: Image Processing

2018/09 - 2018/11

University of Utah

Salt Lake City, UT

- Developed a vehicle tracking software with **MATLAB** to track moving vehicles with a surveillance camera.
- Developed a straightforward object detection, object tracking algorithm within the algorithm that achieved **90% accuracy** on the dataset with a fast processing time.

ATM/POS machine PIN breaking Project

2015/10 - 2016/03

Supervised by Dr. Shujun Li

University of Surrey, UK

- Implemented the Tracking-Learning-Detection tracking algorithm with **MATLAB** to track the path of people's hands while pressing the PIN button.
- Implemented the K-means algorithm to cluster the data that we collected through Tracking-Learning-Detection, and then analyzed the PIN with trace and frequency of the frame.
- Achieved 14 correct predictions among 18 random people with 6-digit PIN.

AWARDS

- Graduate Scholarship from Department of Electrical and Computer Engineering of the University of Utah.
- First-Class Scholarship of Northwestern Polytechnical University (top 5%)
- Graduate Student Scholarship of Beihang University (top 10%)

SKILLS

- Web Development: HTML, CSS, SQL, React, NodeJS, D3, Bootstrap4, MongoDB, Express, REST
- Language and System: Python, JavaScript, C++, C, Linux, MacOS, Git
- Data Science: MATLAB, Julia, Tensorflow, Keras, Pytorch

PUBLICATIONS

- **T.-L. Zhang**, X.R. Shen, Q.F. Xiu, L.D. Zhao, "Person Re-identification based on Minimum Feature using Calibrated Camera", *Chinese Intelligent System Conference*, Mudanjiang, China, 533-540, October 2017
- Q.-F. Xiu, X.R. Shen, **T.L. Zhang**, L.D. Zhao, "An Immersive Roaming Method based on Panoramic Video", *Chinese Intelligent System Conference*, Mudanjiang, China, 431-441, October 2017
- X.-R. Shen, P. Hong, Q.F. Xiu, **T.L. Zhang**, "An Interactive Registration Method for Images to the 3D Urban Scene Model", *International Symposium on Computational Intelligence and Design (ISCID)*, vol.2, 176-179, Hangzhou, China, December 2016