TIANLONG ZHANG

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EDUCATION

Beihang University, Beijing, China *2015/09 - Present*
Master of Science, major in Automation Theory & Engineering
GPA:85.49/100

Northwestern Polytechnical University, Xi'an, China *2011/09 - 2015/06*
Bachelor of Science, major in Automation Science
Overall GPA:83.29/100, Major GPA:85.67/100

Feng Chia University, Taichung, Taiwan *2013/02 - 2013/06*
Course-work Exchange student, major in Automation Engineering
GPA:4.0/4.0

RESEARCH EXPERIENCE

Research on Algorithms of Person Re-identification *2016/11 - Present*
Supervised by Dr.Xiaorong Shen, Beihang University

· Performed experiments on video preprocessing with GMM, feature extraction with both SURF and HOG and feature matching with Bhattacharyya Distance to increase the performance of person re-identification across different surveillance cameras.
· Developed a probabilistic relative distance comparison algorithm to minimize intra and inter-class variation and sparse data.
· Developed a multi-camera cooperation algorithm for feature selecting with minimum computational cost while increasing the robustness and accuracy of re-identification in a camera network.

ATM/POS PIN Breaking Project *2015/09 - 2016/03*
Supervised by Prof.Shujun Li, University of Surrey

· Performed the TLD tracking experiment on the wrist of the target from a surveillance camera of ATM/POS and then preprocessed the images to obtain the data of the target's movement.
· Developed the advanced K-Means method to classify the data and then designed a spatial-based decode algorithm to get the whole picture of the target's movement on ATM/POS.
· Analyzed the data based on the decode algorithm, and then inferred the PIN of the target.

Kinect 2.0 Application Project *2015/10 - 2015/12*
Worked with Ms.Chang Xing and Dr.Xufang Luo, State Key Laboratory of Virtual Reality Technology and Systems

· Analyzed Kinect 2.0 development and application methods based on C++.
· Developed a slide presentation application, keyboard typing application and a video game based on body movement using Kinect 2.0.

Research on Control Problem of Electric Load Simulation *2014/09 - 2015/07*
Supervised by Prof.Bingqiang Li, Northwestern Polytechnical University

· Constructed the model of the electric load from the airplane and optimize the transfer function to improve the stability and of electric load performance.
· Performed the experiment on the simulation of the electric load on MATLAB and refine the algorithm of the transfer function.

WORK EXPERIENCE

iSeetech Co., Ltd., Beijing, China *2016/06 - 2016/11*
Research Intern

- Conducted a learning database for a series of surveillance videos for recognizing the status of the airplanes in PEK with Python.
- Developed the registration method on 3D Reconstruction focusing on Vanishing Point Theory.
- Performed experiment on 3D reconstruction for the square of Beijing West Railway station.
- Performed experiment on immersive roaming method based on panoramic video.

SELECTED AWARDS

- First-Class Scholarship of Northwestern Polytechnical University(top10%)
- Graduate Student Scholarship of Beihang University

ENGLISH AND COMPUTER SKILLS

- Languages: English(TOEFL: 99 with 22 in speaking, GRE: 150+170+3.5), Mandarin(Native)
- Computer Languages/Libraries/Dependencies: C++, MATLAB, Python, Shell; OpenCv, Kinect SDK, Scikit-learn.

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