

Bijun Li

CONTACT INFORMATION

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RESEARCH INTERESTS

Computer Vision: Simultaneous localization and mapping, 3D Reconstruction,
Stereo vision, Object recognition, Augmented Reality.
Machine Learning: Reinforcement learning, Deep learning

EDUCATION

[Tsinghua University](#), Beijing, China

Sep. 2015 – Present

M.E., Department of Automation

- Major in Control Engineering
- Minored in Big Data Capability Improvement Project
- Advisor: Prof. Kai ZHANG, Prof. Bokui CHEN
- Core Courses: Digital Image Processing and its Applications, Data Mining: Theory and Algorithms, Pattern Recognition, Big Data Analytics, Big Data System, Stochastic Process, Multi-Sensor Fusion Theory and Application.
- Overall GPA: 3.3/4.0

[Northwestern Polytechnical University](#), Xi'an, China

Sep. 2011 – Jul. 2015

B.E., School of Power and Energy

- Major in Automation
- Advisor: Prof. Sanmai SU
- Overall GPA: 3.25/4.0 (82.5/100), Junior GPA: 3.75/4.0 (87.5/100)

PROJECTS EXPERIENCE

♦ **Obstacle avoidance of logistics terminal delivery robots.** (in start-up phase)

Sep. 2017- Present

- Obtain the location information of obstacles through visual simultaneous localization and mapping.

♦ **Motion control system for omnidirectional wheeled mobile robot.**

Nov. 2016 – Apr. 2017

- Build the omnidirectional mobile platforms model of AGV.

- According to the performance of the stepper motor, the omnidirectional PID controller is designed by combining the logic control with the PID control.

- Omnidirectional linear controller is designed according to the movement state of AGV.

♦ **Visual positioning system for automated guided vehicle.**

July. 2016 – Nov. 2016

- Design landmark for visual positioning system.

- Determine the AGV direction by template matching.

- By improving the Prewitt operator, the direction of the edge line is obtained, which is contribute to improve the accuracy of measured deviation.

♦ **Face gender recognition based on Convolutional Neural Networks.**

Apr. 2016 – May. 2016

♦ **The shortest path problem based on genetic algorithm and its MATLAB implementation.**

Mar. 2016 – Apr. 2016

- ♦ **Application of Support Vector Machine to forecast the direction of stock index.** May. 2016 – Jun. 2016
- ♦ **Design of Robust Controller for Aero-Engine.** Aug. 2014 – Jun. 2015
- The linear matrix inequality (LMI) robust controller is designed based on the multi-variable linear model of aero-engine
 - According to the idea of optimal controller design, the hybrid Sensitivity Robust Controller for aero-engine is designed
 - Analysis of the advantages and disadvantages of two kinds of controllers mentioned above.
- ♦ **The design of the public bicycle service system in Xi'an Jing Kai District.** May. 2014
- Solving multiple traveling salesmen problem (MTSP) through genetic algorithm.
 - Under the constraint of input fund, a model of double objective programming was set for the optimum value of the number of bicycle rental points and the number of bicycles.

TEACHING EXPERIENCE

Teaching Assistant

- Fundamentals of applied information theory Tsinghua-Berkeley Shenzhen 2014

PUBLICATIONS

1. **Bijun LI**, Mingyao QI, Kai ZHANG, and Bokui CHEN*, "Landmark-Based Visual Positioning System for Automatic Guided Vehicle." IEEE Cota International Conference of Transportation Professionals (CICTP). [Abstract Accepted]. 2017.
2. **Bijun LI**, Mingyao QI, Yuhua DONG, Kai ZHANG, Bokui CHEN*. "Visual Positioning System and Motion Control Method for Automated Guided Vehicles." The Institution of Engineering and Technology (IET). [Submitted]. 2017.

HONORS AND AWARDS

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| 1. "Qingfeng" Pre-scholarship, Tsinghua University | Tsinghua University | 2017 |
| 2. Big data promotion project certificate | Tsinghua University | 2017 |
| 3. The Third Prize Scholarship | Graduate School at Shenzhen, Tsinghua University | 2016 |
| 4. The First Prize Scholarship | Northwestern Polytechnical University | 2014 |
| 5. The First prize in Mathematical Modeling Contest | Northwestern Polytechnical University | 2014 |
| 6. The First prize in C language programming skills competition | Northwestern Polytechnical University | 2014 |
| 7. The Second prize in Digital Electronic Experiment Skill Contest | Northwestern Polytechnical University | |
| 8. National Encouragement Scholarship | Northwestern Polytechnical University | 2013 |
| 9. Excellent Student Cadre | Northwestern Polytechnical University | 2013 |
| 10. The Second Prize in Mathematical Modeling Contest | Northwestern Polytechnical University | 2013 |
| 11. The Third Prize in T-shirt Design Contest | Northwestern Polytechnical University | 2013 |

SKILLS

Programming

- Matlab, C/C++, Python, LATEX, OpenCV, Linux.