YANRAN   WANG

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EDUCATION

Imperial College London   *January 2021-Now*
Status: Ph.D. Candidate.
Research Interests: Autonomous Navigation, Robust Learning-based Control.

Shanghai Jiao Tong University (SJTU, 211 and 985)   *September 2017-March 2020*
Degree: Master of Engineering
Comprehensive Ranking: 1/71
Core Courses: Numerical Estimation, Optimal Estimation and Information fusion, Optimal Control Principle and Application, Matrix Theory.
Research Interests: Machine Learning, Muti-Sensor Fusion.

Southeast University (SEU, 211 and 985)   *September 2013-June 2017*
Degree: Bachelor of Engineering   Overall GPA: 3.84/5.0
Comprehensive Ranking: 3/144
Core Courses (Full score is 100 points): Probability Theory and Mathematical Statistics (94), Electronic Circuit Foundation (95), Computer Composition and Structure (92), Communication Principle (97).
Research Interests: Automatic Control, Machine Learning.

HONOURS AND AWARDS

- Shanghai excellent graduate honour   *2019*
Awarded for outstanding comprehensive evaluation including scientific research and course grade (ranking 2/71).
- National Scholarship   *2018*
Awarded for outstanding comprehensive evaluation for the first year of master study (ranking 1/71).
- SJTU Graduate First-class Academic Scholarship   *2017*
Awarded for outstanding course grade. The top 30 percent of students can get this scholarship in SJTU.
- Exam-exempted postgraduate student recommended to SJTU   *2017*
In China, outstanding undergraduate students can study for a master degree directly and I got this qualification (ranking 3/144).
- The last eight teams of RoboCup of World (In Leipzig, Germany)   *2016*
RoboCup is a professional robot competition in the world and my work is described in RESEARCH EXPERIENCES.
- The first prize of Mathematical Contest in Modeling (MCM)   *2015*
Awarded for theoretical model design, programming implementation and result analysis. MCM is the largest basic discipline competition in China.
- Presidential Scholarship   *2015*
Awarded for outstanding course grade and competition results for my postgraduate study in SEU.

RESEARCH EXPERIENCES

- **Perception-to-decision Reinforced Imitation: An Intelligent Control System**
January 2017-December 2019
    My work was to build an Intelligent Control System (ICS) for autopilot. The underlying ICS combines the Convolution Neural Network, Deep Reinforcement Learning and Imitation Learning processes. The developed approach is proved to be more efficient and robust for the complicated situation than the existing autopilot system.
- **Theoretical Model Design and Safety Analysis for Muti-Sensor Fusion System**

September 2013-August 2018

A fusion model was established with a variable sampling Variational Bayesian-Interacting Multiple Model algorithm for integrated display in a simulator platform. My work was responsible for the overall implementation of the fusion system including theoretical model design, experimental simulation verification, practical implementation and results analysis.

- **A Robot Self-Localization System Based on Computer Vision**

  October 2014-October 2016

  Robocup is a professional robot competition with a large influence, a high level of comprehensive technology and a wide range participation across the world. My main work was to develop a robot vision self-localization system using computer vision.

PUBLICATIONS

1. Yanran Wang, James O'Keeffe, Qiuchen Qian and David E. Boyle. "KinoJGM: A framework for efficient and accurate quadrotor trajectory generation and tracking in dynamic environments." International Conference on Robotics and Automation (ICRA), IEEE, 2022, accepted.
2. Xiao, Gang, **Yanran Wang**, and Fang He. "Research on safety modeling and analysis in information fusion system." Aerospace Systems 2.1 (2019): 51-60. (DOI: 10.1007/s42401-018-0011-2, recommended by an A-class International Conference in SJTU)
3. **Yanran Wang**, Gang Xiao, and Zhouyun Dai. "Integrated Display and Simulation for Automatic Dependent Surveillance–Broadcast and Traffic Collision Avoidance System Data Fusion." Sensors 17.11 (2017): 2611. (DOI: 10.3390/s17112611)

INTERNSHIP

- **Internship in Ant Financial Services Group (Alipay)**

  Machine Learning Algorithm Intern   *June 2019-September 2019*

  A Deep Neural Network and Deep Reinforcement Learning model was built for a recommender system which is used to estimate Internet user's Click-Through-Rate.
- **Intel Asia Pacific R&D Center**

  Deep Learning Software Intern   *March 2019-May 2019*

  Responsible for machine learning framework (BigDL) development and test preprocessing.

EXTRACURRICULAR ACTIVITIES

Teaching Assistant of Academic Writing, Norms and Ethics	*2018*
Volunteers of Minhang District Youth Activity Center, Shanghai	*2018*
The 4th College Student Art Exhibition won the provincial special prize	*2014*

SKILLS

Programming languages: C/C++, Python and Matlab
Others: Erhu (a Chinese national musical instrument)