# YANRAN WANG

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## EDUCATION

**Southeast University** (SEU, 211 and 985) *September 2013-June 2017*
**Degree:** Bachelor of Engineering Overall GPA: 3.84/5.0
**Major:** Automation, School of Automation
**Comprehensive Ranking:** 3/144
**Core Courses** (Full score is 100 points): College Physics (96), Probability Theory and Mathematical Statistics (94), Electronic Circuit Foundation (95), Circuit Foundation (88), Signals and Systems (87), Computer Composition and Structure (92), Communication Principle (97).

**Shanghai Jiao Tong University** (SJTU,C9,211 and 985) *September 2017 to NOW*
**Degree:** Academic Master Overall GPA: 3.54/4.0
**Major:** Information and Control, School of aeronautics and astronautics

## HONORS AND AWARDS

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|---|---|
| Presidential Fellowship of Southeast University | *2015* |
| Merit Student of Southeast University | *2015* |
| The first prize of Mathematical Contest in Modeling(MCM) | *2015* |
| The first prize of RoboCup of China (In Guiyang and Hefei, China) | *2015 and 2016* |
| The last eight teams of RoboCup of World (In Leipzig, German) | *2016* |
| Exam-exempted postgraduate student recommended to Shanghai Jiao Tong University (SJTU) | *2017* |
| Shanghai Jiaotong University Graduate First-class Academic Scholarship | *2017* |
| National Scholarship for graduate student of Shanghai Jiao Tong University | *2018* |

## ACADEMIC EXPERIENCES

- **Project: Self localization of Robot project**
  Southeast University (SEU), *October 2014-October 2016*
  My main part is the robot vision self-localization based on computer vision and also participates in the gait design modeling of some robots. The robot self- localization mainly to identify door posts and edge lines.Then Monte-Carlo particle filter algorithm is used for robot to do localization. The design and debugging of gait is mainly based on the human body model of the humanoid robot proposed by Putian Xiu Shi (Japan). The design of the robot has been completed in the early stage.
- **Project: National Program on Key Basic Research Project (2014CB744903)**
  Shanghai Jiao Tong University (SJTU) *September 2013-August 2018*

(1) I established a fusion model of two sensors with a variable sampling Variational Bayesian-Interacting Multiple Model algorithm for integrated display in a simulator platform. The overall implementation of the fusion system is done, including theoretical model design, experimental simulation verification, engineering implementation, results analysis. Simulation and implementation results show that the fused system has better performance than each independent subsystem and it can work well in engineering applications.

(2) System integration is a prominent trend in research and development of robotics and autonomous systems. It can improve task effectiveness, function efficiency and resources utilization of system. The concept and model of multi-source Mishap Dilution, Mishap Implication and Mishap Confusion (MD-MI-MC) is proposed for safety analysis of integrated avionics system. A fusion model with a VSVB-IMM algorithm is used to analyze. At last, a set of theories system and evaluation standards including the positive and negative earnings analysis are built based on the presented MD-MI-MC theory and mechanism of integrated avionics.

- **Project: Shanghai Industrial Strengthening Project (GYQJ-2017-5-08)**
  ShangHai Jiao Tong University (SJTU) *January 2017-December 2019*
  An Intelligent Autopilot System, which is able to solve flight emergency by learning pilot manipulating action, is built based on Deep Reinforcement Learning. The system can solve flight emergencies like topographical approach rate too large and emergency landing In these situations the flight autonomous system will be able to self-maneuver the aircraft or give guidance based on current conditions.

## PUBLICATIONS

1. Yanran Wang, Gang Xiao *, Zhouyun Dai. Integrated Display and Simulation for ADS-B and TCAS data fusion [J]. Sensors, 2017. 17(11), 2611. (Published)
2. Gang Xiao, Yanran Wang, Fang He. Research on Safety Modeling and Analysis in Information Fusion System [J]. Aerospace Systems, 2018. (Accepted)

## EXTRACURRICULAR ACTIVITIES

The 4th College Student Art Exhibition in Jiangsu Province of China (National Symphony "Crouching Tiger, Hidden Dragon"), won the provincial special prize 2014
TA of Academic Writing, Norms and Ethics *2018*
Volunteers of Minhang District Youth Activity Center, Shanghai *2018*

## SKILLS

**Programming languages:** C, C++, C#, MATLAB, Python, Javascript/HTML/CSS.
**Others:** Erhu (a Chinese national musical instrument, Quasi-professional level)