Jiajun Fan

Bachelor of Engineering

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Resume in Chinese

EDUCATION

Nankai University Artificial Intelligence College TianJin,China

Bachelor of Engineering, major in Intelligent Science and Technology Sept. 2017 - Expected 2021

- **GPA** : 92.58/100 (1/47)
- Relevant Coursework: Automatic Control Principle, Computer Composition Principle, Differential Equation and Complex Function, Probability Theory and Mathematical Statistics, Machine Vision, Data Structure, Reinforcement Learning(cs294), Machine Learning(cs229), Deep Learning (cs230)
- **Skilled in Python, MATLAB, C/C++, Verilog, Javascript, PyTorch, TensorFlow, LATEX, Web Crawler, Git**
- **Academic skills : Paper implement, Literature collation, Self-study, Essay writing**

PUBLICATIONS

[1] **Jiajun Fan**, Tianyi Li, Xian Guo, Mingrui Hao, Mingwei Sun **"A Novel Attitude Controller for Hypersonic Aircraft Based on FR-PI2"** ICGNC 2020

[2] **Jiajun Fan**, Tianyi Li, Xian Guo, Mingrui Hao, Mingwei Sun "Learning Optimal Control Law for Hypersonic Vehicle from Scratch via Model-Based Reinforcement Learning" CAC 2020 under review

[3] Tianyi Li*, **Jiajun Fan***, Xian Guo, Mingrui Hao, Mingwei Sun "Self-Tuning Attitude Control Design of Hypersonic Aircraft with Multi-Constraints Based on Soft-Constrained PI2 with Action Smooth" CAC 2020 under review

RELEVANT EXPERIENCE

Reinforcement Learning Project Team Intern

Advisor: **Xian Guo**

Project A: Research on Model-based Reinforcement Learning Algorithm *Apr.2020 – persent*

- Propose a new strategy to improve the algorithm learning framework and test the algorithm performance on the **MuJoCo** simulation environment **(Python)**
- Project results will be submitted to **AAAI 2021**

Project B: Constrained Path Integral for Hypersonic Aircraft Attitude Control *Mar.2020 – Apr.2020*

- Proposed multiple improvements to PI2 and solved a stochastic optimal control model with constraints
- Research results will be submitted to **CAC 2020**

Project C: A Novel Hypersonic Aircraft Attitude Controller Based on Path Integral *Feb. 2020 – Mar.2020*

- Implemented a rolling optimization algorithm based on MPC control method **(Python)**
- Implemented PID system auto-tuning algorithm based on path integral **(Python & C++)**
- Research results have been submitted to **ICGNC 2020**

Project D: Gobangs robot based on ModelArts and HiLens *Sept. 2019 - present*

- The paper based on AlphaGo realizes Gobang AI, and combined with visual algorithm to realize automatic game AI **(Python)**
- Related achievements will be showcased at the **2020 Robocup China**

Robot Development Project Team Intern

Advisor: Feng Duan , Jeffrey Too Chuan TAN

Project E : Multifunctional Home Service Robot *Sept. 2018 - Jul. 2019*

- Proposed a solution for the entire project and a finite state machine diagram **(Visio)**
- Implemented autonomous navigation and RRT path planning related algorithms based on ROS **(C++ & Python)**
- Project results have been presented in the **2019 ROBOCUP Sydney World Finals**

AWARDS

- 2018 Nankai University Public Scholarship (top 5%)
- 2018 Nankai ACM School Tournament Bronze
- 2018 National Second Prize of National College Students Mathematical Contest in Modeling (top 1%)
- 2019 third place in the EDU group of the Robocup World Robot Competition
- 2019 Xuzhou ACM / ICPC Bronze Medal
- 2019 National Scholarship (top 1%)

WORK EXPERIENCE

- Director of Academic Department, School of Artificial Intelligence, Nankai University
- Intern in AI Lab of Byte Dance