LI JINGQI

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Location: NO.37 Xueyuan Road, 100191, Beijing, China

EDUCATION

Beihang University Project 985 & 211, Beijing, China
M.S. of Engineering. *September 2020 - Present*

· Supervisor: Prof Li Huifeng
· GPA: 3.62/4.0.

Northwestern Polytechnical University Project 985 & 211, Xi'an, China
B.S. in Engineering. *September 2016 - July 2020*

· GPA: 3.7/4.0 (Ranking: 4/53)

AWARDS & HONORS

Scholarships

· The First Prize Scholarship for Outstanding Students of Beihang University. *2021*
· The Freshman Scholarship of Beihang University. *2020*
· The First Prize Scholarship for Outstanding Students of NWPU. (3 Times) *2017-2019*
· The Second Prize Scholarship of Aviation Industry Corporation of China. *2016-2017*

Awards

· Outstanding Graduate Student of Beihang University. *2020*

RESEARCH INTERESTS

∗ **Research Object:** Robotics, Autonomous Vehicles
∗ **Research Method:** Decision,planning and control, Combinatorial optimization.

PUBLICATIONS & MANUSCRIPTS

Patent

[1] Zhang Ran,Li Huifeng,**Li Jingqi**. A Learning-Based Real-Time Waypoint Decision-Trajectory Planning Method For Aircraft. (Already Published: CN115328196A)

Journal

[1] **Li Jingqi**,Ran Zhang,Huifeng Li. Real-time Trajectory Re-planning Method with Application on Commercial Aircraft Weather Avoidance. *Chinese Journal of Aeronautics* (Under review)

RESEARCH EXPERIENCE

Intelligent Method for Aircraft Autonomous Trajectory Generation Beijing, China
Advisor: Professor Li Huifeng *September 2020 - Present*

◇ **Effective Mixed-Integer Trajectory Planning Approach for Large Aircraft**

· Established a mixed-integer optimal control model to describe trajectory planning problem of large aircraft with waypoint selection considered.
· Developed an efficient iterative method that computes sub-problem of mixed-integer linear planning in each iteration.
· Achieved rapid trajectory planning with within 5 minutes given a wind forecast.

◇ **Online Aircraft Trajectory Re-planning Approach with Waypoint Decision**
· Established a bi-layer model in which waypoint decision process is formulated as a sequential classifying problem.
· Proposed a bi-layer decision-generation method, in which a small-scaled neural network is designed for waypoint decision, and trajectory is generated via iterative method underlying settled waypoints.
· Improved the speed of waypoint decision-trajectory planning of large aircraft to 3 seconds.
· Achieved re-planning aircraft trajectory on different irregular waypoint layouts.

Load-reduced Control of Launch Vehicle Based on Inverse Reinforcement Learning
Xi'an, China
Advisor: Professor Wang Rui *December 2019 - July 2020*

· Designed a load-reduced scheme, in which agent generate load-reduced trajectory learned from passive load-reduced control method (a current method in practice).
· Created a launch vehicle ascent phase training environment that has 24 different wind profiles for training.
· Achieved high proportion load reduction at 60%-70% and adaptability in 64 types of wind environment.

VOLUNTEER ACTIVITIES

Volunteer in Graduate Singer Competition Beijing, China
Organizer *October 2020 - January 2021*

· Discussed the procedure of graduate singer competition with other volunteers.
· In charge of photography group work, including script design, shooting and clip video.
· Completed a successful graduate singer competition.

Volunteer in Holding Tennis Competition Xi'an, China
Organizer *March 2017 - May 2017*

· Discussed the rule of tennis competition with other volunteers.
· Invited nearby university tennis club to join the competition.
· Volunteered as a referee during the competition.

Volunteer in Library Xi'an, China
Volunteer *August 2017 - September 2017*

· Provided library-related information for students.
· Put returned books in bookshelves.

TECHNICAL STRENGTHS

Simulation	MATLAB&Simulink.
Programming	Python(including Tensorflow, Pytorch)
Presentation and Writing	Microsoft Office