Jiahe Xu

Email: xjh15971488646@163.com | Tel: (+1) 443-831-8846

Educational Background:

- **Johns Hopkins University** *08/2020 – 05/2022(expected)*
  Whiting School of Engineering, Robotics MSE ***Cumulative GPA: 3.9/4***
- **Jilin University** *09/2016 - 07/2020*
  Tang Ao-qing Honors Program in Computer Science ***Cumulative GPA: 89/100 3.6/4***
- **Massachusetts Institute of Technology** *08/2019*
  2019MIT Machine Learning & Artificial Intelligence Short Course ***Course Grade: 91.5/100***

Github*: https://github.com/JiaheXu*
(Personal codebase, includes course projects and useful materials)
CSDN*: https://blog.csdn.net/EOD_realize*
(A blog of code notebook back to high school, the click number is over 200K)

Professional Skills:

Programming Languages: C/C++, Java, Javascript, Python, Matlab, PHP, VHDL, Julia.
Familiar with ROS, Ubuntu, MySQL, SpringBoot.

Research Experiences:

Research on Unmanned Aerial Vehicle
Research Assistant Dept. of ME, JHU ASCO Lab Director: Prof. Marin Kobilarov 09/2021-now

- Created an interactive visualization framework of debugging, optimizing, and state-checking. Implemented a GUI to represent the state of *UAV(PX4)* with Qt and QcustomPlot package.
- Took part in constructing the simulation environment.
- Implemented pick-and-place test routines and calibrations in simulation.

Research on Intelligent Wind Power Generator (WPG)
Research Assistant Dept. of CS, Jilin University Director: Prof. Lan Huang 09/2020-06/2021

- Used an RNN model to predict the wind speed and direction with historical data.
- Applied an MPC controller to adjust the direction of fans (so it could generate more power).
- Designed a local search method for cooperation between WPGs (WPGs on the front will influence wind speed and direction to WPGs on the back)

Research on Facial Expression Recognition
Research Assistant Dept. of EE, Tsinghua University Director: Prof. Yi Yang 07/2019-09/2019

- Researched two CNN models for realizing facial expression recognition (Resnet and Facenet).
- Analyzed algorithms of two methods and summarized the advantages and disadvantages.
- Adjusted dataset to improve models' performances, tested model robustness with different data distributions.
- Improved about 10% accuracy (from 72.3% to 81.9%) on expression recognition.

Core courses (Control and machine learning related):

JHU: Nonlinear Control and Planning in Robotics, Applied Optimal Control, Computer Vision, Nonlinear Optimization I & II, Machine Learning: Learning theory, Deep learning,
UC Berkeley: Linear System Theory, Introduction to statistical learning, Deep Reinforcement Learning, Integrated Perception Learning, and Control

Teaching experience: *Jilin University EECS department 09/2020 – 06/2021*

Teaching Assistant of course "Data structure" 2020 Fall.
Teaching Assistant of course "Algorithm Analysis" 2021 Spring.