JUN WANG

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BIOGRAPHY

I am a **second-year Ph.D. candidate** at the Department of Electrical and Systems Engineering, **Washington University in St. Louis**, advised by **Prof. Yiannis Kantaros**. My research goal is to design algorithms for safe robot autonomy. My recent work is focusing on reinforcement learning and formal methods-based control.

Research Interests: Robotics, Machine Learning, Planning and Control

EDUCATION

Washington University in St. Louis, St. Louis, MO, USA — Jan 2022 - Present
Ph.D. Candidate in Electrical Engineering — GPA: 4.0/4.0
Advisor: Prof. Yiannis Kantaros

University of Pennsylvania, Philadelphia, PA, USA — Aug 2019 - May 2021
M.S.E. in Robotics — GPA: 3.97/4.0
Advisor: Prof. George Pappas & Prof. Hamed Hassani
Thesis: "Model-Based Robust Semantic Segmentation"

Sun Yat-Sen University, Guangzhou, China — Aug 2015 - May 2019
B.Eng. in Software Engineering — GPA: 3.8/4.0

Sungkyunkwan University, Seoul, Korea — Jan 2018 - Jun 2018
Computer Engineering (Exchange Program) — GPA: 3.8/4.0

WORK EXPERIENCE

Schlumberger Doll Research Center, Cambridge, MA, USA — May 2021 - Jan 2022
Research Intern (Robotics & Sensor Physics Department)
Mentor: Dr. Tianxiang Su

PUBLICATIONS

[1] K. Tan, **J. Wang**, and Y. Kantaros, "Targeted Adversarial Attacks against Neural Network Trajectory Predictors." 5th Annual Learning for Dynamics & Control Conference (**L4DC**), 2023.

[2] **J. Wang**, S. Kalluraya, and Y. Kantaros, "Verified compositions of neural network controllers for temporal logic control objectives." IEEE 61st Conference on Decision and Control (**CDC**), 4004-4009, 2022.

RESEARCH EXPERIENCE

- **Formal Methods-based Control (WashU)**
  - Proposed a new approach to design verified compositions of Neural Network (NN) controllers for autonomous systems with tasks captured by Linear Temporal Logic (LTL) formulas[2].
- **Model-based Robust Semantic Segmentation (UPenn GRASP)**
  - Proposed a model-based robust training algorithm with the help of domain adaptation methods to improve the robustness of 2D semantic segmentation under natural variations

TECHNICAL SKILLS

Programming Languages Python, Matlab, C/C++
Deep Learning Frameworks Pytorch, Tensorflow
Robotics Platform ROS, Gazebo

AWARDS

Scholarship for Academic Excellence, Sun Yat-Sen University, Guangzhou, China. 2016-2017.

PROFESSIONAL SERVICES

Conference Reviewer: Annual Learning for Dynamics & Control Conference(**L4DC**), IEEE/RSJ International Conference on Intelligent Robots and Systems(**IROS**), International Conference on Robotics and Automation(**ICRA**)

TEACHING SERVICE

As Teaching Assistant:

- CIS 519: Applied Machine Learning, University of Pennsylvania. 2021 Spring.

As Graduate Course Grader:

- ESE 547: Legged Locomotion, University of Pennsylvania. 2021 Spring.
- ESE 512: Dynamical Systems, University of Pennsylvania. 2020 Fall.
- ESE 500: Linear Systems, University of Pennsylvania. 2020 Fall.