JUN WANG

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PROFESSIONAL SUMMARY

Robotics Ph.D. candidate focused on **safe, scalable multi-robot systems**, combining formal methods, conformal prediction, large language models (LLMs) and reinforcement learning (RL) to develop a **provably-correct multi-robot planner** that achieves 6× faster planning and 70% less human oversight.

Expertise: Robotics • LLM & VLM Task Planning & Fine-Tuning • Temporal Logic RL • Uncertainty Quantification

Skills: Transformers • PyTorch • Hugging Face/LoRA • ROS • Gazebo • Python • CUDA • MATLAB • Linux • MoveIt!

EDUCATION

Washington University in St. Louis, St. Louis, MO — Jan 2022 - Dec 2026 (expected)
Ph.D. Candidate in Electrical Engineering — GPA: 4.0/4.0

University of Pennsylvania, Philadelphia, PA — Aug 2019 - May 2021
M.S.E. in Robotics — GPA: 3.97/4.0

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

WORK EXPERIENCE

EvenUp Inc, San Francisco, CA — Sep 2025 - Now
PhD Intern in Generative AI & Machine Learning with Dr. Taesik Na

- Fine-tuning large language models on complex medical and legal corpora to enhance accuracy and applicability.

Schlumberger-Doll Research Center, Cambridge, MA — May 2021 - Jan 2022
Research Intern in Robotics & Sensor Physics Department with Dr. Tianxiang Su

- Automated wireline cable spooling under variable weather and lighting conditions, cutting error by 25% and boosting operational reliability via real-time sensor feedback and adaptive deep learning.

RESEARCH PROJECTS

Scalable and Efficient Robot Planning with LLMs

- Developed **ConformalNL2LTL** [c4], the **first** LLM-based Natural Language-to-LTL (Linear Temporal Logic) translator achieving **user-defined** success rate on unseen instructions; open-sourced the toolkit.
- Developed **S-ATLAS** [c3], a distributed conformal-prediction LLM planner that achieves **76% less human intervention, 6× faster runtime**, and **2.5×-4× higher success rates** on 10-robot missions.
- Developed **HERACLEs** [c1], an LLM-symbolic hybrid planner achieving **up to 9x higher mission accuracy** and **72% less user help** on complex natural language missions.

Robust and Efficient Control with Formal Methods

- Designed temporal-logic-guided RL algorithms [c2] that achieve **up to 10x faster** learning and 65.8% **higher success rates** in complex safety-critical environments.

SELECTED PUBLICATIONS

Please see my full publication list in my *Google Scholar*, (* indicates equal contribution)

[c5] K. Tan, P. Li, **J. Wang**, and T. Beckers, "PnP-PIML: Physics-informed Learning of Outlier Dynamics using Uncertainty Quantified Port-Hamiltonian Models" **(ICRA)**, 2025

[c4] **J. Wang***, D. Sundarsingh*, J. Deshmukh, and Y. Kantaros, "ConformalNL2LTL: Translating Natural Language Instructions into Temporal Logic Formulas with Conformal Correctness Guarantees." [arXiv]

[c3] **J. Wang**, G. He, and Y. Kantaros, "Probabilistically Correct Language-based Multi-Robot Planning using Conformal Prediction." **IEEE Robotics and Automation Letters (RA-L)**, 2024.

[c2] R. Mitta, H. Hasanbeig, **J. Wang**, D. Kroening, Y. Kantaros, and A. Abate, "Safeguarded Progress in Reinforcement Learning: Safe Bayesian Exploration for Control Policy Synthesis." **(AAAI)** 2024.

[c1] **J. Wang**, J. Tong, K. Tan, Y. Vorobeychik, and Y. Kantaros, "Conformal Temporal Logic Planning using Large Language Models." **ACM Transactions on Cyber-Physical Systems (TCPS)** 2025.