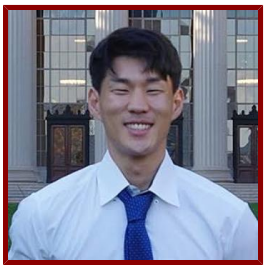
Stanford



Kota Kondo

Postdoctoral Scholar, Aeronautics and Astronautics

Bio

BIO

Kota Kondo is a Postdoctoral Scholar in Aeronautics and Astronautics at Stanford University, working with Prof. Mac Schwager in the Multi-Robot Systems Lab. His research focuses on learned world models and long-horizon planning, with the goal of building robots that can be placed somewhere they have never been and, through their own experience, become safe and useful there.

Kota received his PhD in Aeronautics and Astronautics from MIT in 2026, advised by Prof. Jonathan How in the Aerospace Controls Laboratory. His thesis, "Safe and Fast Trajectory Planning in Unknown Dynamic Environments," developed single-agent and multiagent planners for UAVs and ground robots, validated in hardware experiments. This work includes SANDO, which provides formal safety guarantees among unknown dynamic obstacles, and MIGHTY, an open-source Hermite-spline trajectory planner.

Before his PhD, he received an SM from MIT and a BS in Aerospace Engineering from Kyushu University, including an exchange year at the University of Michigan. His earlier work was in spacecraft guidance, navigation, and control, including model predictive control for detumbling underactuated small satellites and attitude control for the DWARF satellite at Stanford's Space Rendezvous Laboratory.

PROFESSIONAL EDUCATION

- Bachelor of Aerospace Engineering, Kyushu University (2020)
- Doctor of Philosophy, Massachusetts Institute of Technology (2026)
- Master of Science, Massachusetts Institute of Technology (2023)
- BS, Kyushu University , Aerospace Engineering (2020)
- SM, Massachusetts Institute of Technology , Aeronautics and Astronautics (2023)
- PhD, Massachusetts Institute of Technology, , Aeronautics and Astronautics (2026)

LINKS

- Personal Website: https://kotakondo.github.io/
- Multi-Robot Systems Lab: https://msl.stanford.edu/

Research & Scholarship

RESEARCH INTERESTS

- Artificial intelligence (AI)

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Every robot acts on a model of the world it cannot fully trust. Kota's research moves that model from hand-crafted to learned, without giving up the safety guarantees that make robots deployable. He currently studies long-horizon task and motion planning for manipulation and humanoid robots. This work combines learned world models and generative models with vision-language-action models (VLAs) and vision-language models (VLMs). His interests include grounding world models in physics and uncertainty, sample-efficient learning, acquiring new skills through composition, and hierarchical planning and execution over long horizons. His earlier work addressed fast, safe trajectory planning for aerial and ground robots in unknown dynamic environments. That included formal safety guarantees and decentralized multiagent coordination.

LAB AFFILIATIONS

- Mac Schwager, Multi-Robot Systems Lab (10/1/2026)