

Yuchen (Iris) YANG

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Education

Shanghai Jiao Tong University (SJTU)

Sept. 2021 – June. 2025

BS in Mechanical Engineering

Shanghai, China

- GPA: 3.49/4.3 (84.4/100), Junior GPA: 3.77/4.3 (88.2/100)
- Core Courses: Robotics (95), Design and Manufacture II (92), Engineering Materials(90), Manufacturing Process (91), Theoretical Mechanics (89)

Experience

JAKA Robotics

June. 2024 – Present

Intern, Robotics Division Research and Development Center

Shanghai, China

- Architected a MuJoCo-based simulation environment for dual-arm robots, encompassing desk grasping, shelf grasping, and pick-and-place scenarios. [🔗](#)
- Constructed a demonstration collection pipeline using a data glove to map operator motions to robot actions with high fidelity, resulting in a dataset of over 30 demonstrations for stacking tasks. [🔗](#)
- Developed a demonstration-based reinforcement learning framework that achieved a success rate of XX% in long-horizon stacking tasks, demonstrating the capability to generalize solutions to unfamiliar stack configurations. [🔗](#)

Publications

Characterizations of Voluntary and Involuntary Imagery in Aphantasia

May. 2024

Suna Duan*, **Yuchen Yang***, Kangxin Li, and Binglei Zhao

(Preprint [10.31219/osf.io/n6xpr](https://arxiv.org/abs/10.31219/osf.io/n6xpr) [🔗](#))

Projects

A Self-Designed 6-DoF Robot Arm (Group Leader) [🔗](#)

- Orchestrated an in-depth kinematic analysis with formula derivation and code implementation, including the establishment of a Denavit-Hartenberg model, development of comprehensive forward and inverse kinematics, and computation of the Jacobian matrix.
- Implemented a function for workspace visualization feature.
- Engineered an obstacle avoidance function using the Rapidly-exploring Random Tree (RRT) algorithm.

A Frog-like Bionic Amphibious Robot (Group Leader) [🔗](#)

- Built the Energy Storage and Release Module, integrating a cam and torsion spring system to enable powerful and sustainable jumping and swimming motions.
- Created the Mode Switching System, allowing the efficient transition between jumping and swimming modes.

Machining Process Plan for an Irregular Part [🔗](#)

- Enhanced the part structural processability through iterative design, achieving stringent precision requirements for fit and function.
- Designed detailed process procedures for mass production, incorporating dimensional chain analysis to ensure accuracy inspection standards.

Technologies

Languages: Mandarin (native), English (TOEFL 102, with Speaking 25)

Programming: Python, Pytorch, C++, Java, HTML, Astro

Professional Tools: SolidWorks, MATLAB, Adams, Ansys, LabVIEW