

# Yao Su

Email: suyao@biga.ai | yaosu@g.ucla.edu  
Telephone: (+86)15710929261

## RESEARCH INTERESTS

---

Robotics, Control and System, Optimization, Path Planning, Dynamics, Simulation

## EDUCATION

---

|  |                 |
|--|-----------------|
| University of California, Los Angeles          | Los Angeles, CA |
| Ph.D. in Mechanical Engineering                | 09/2017-06/2021 |
| M.S. in Mechanical Engineering                 | 09/2016-06/2017 |
| Overall GPA: 3.87/4.0                          |                 |
| Harbin Institute of Technology                 | Harbin, China   |
| B.S in Mechanical Engineering and Automation   | 09/2012-06/2016 |
| Overall GPA: 3.83/4.0      Major GPA: 3.92/4.0 |                 |

## APPOINTMENTS

---

|   |                 |
|---|-----------------|
| Beijing Institute for General Artificial Intelligence(BIGAI)<br>Research Scientist in Robotics        | 06/2021–Present |
| Mechatronics and Control Laboratory(MacLab)<br>Graduate Student Researcher, Advisor: Dr.Tsu-Chin Tsao | 09/2017–06/2021 |
| Robotics and Mechanisms Laboratory(RoMeLa)<br>Graduate Student Researcher, Advisor: Dr.Dennis Hong    | 09/2016–09/2017 |

## PUBLICATIONS

---

Journal Paper (\*indicates joint first authors)

- [J6]      **Su, Y.**, Jiang, Y., Zhu, Y., & Liu, H. (2021). Object Gathering With a Tethered Robot Duo. IEEE Robotics and Automation Letters, 7(2), 2132-2139. DOI : 10.1109/LRA.2021.3141828 .
- [J5]      **Su, Y.\***, Ruan, L.\* , Yu, P.\* , Pi, C. H., Gerber, M. J., & Tsao, T. C. (2021). A Fast and Efficient Attitude Control Algorithm of a Tilt-Rotor Aerial Platform Using Inputs Redundancies. IEEE Robotics and Automation Letters, 7(2), 1214-1221. DOI : 10.1109/LRA.2021.3138806.
- [J4]      **Su, Y.\***, Yu, P.\* , Gerber, M. J., Ruan, L., & Tsao, T. C. (2021). Nullspace-Based Control Allocation of Overactuated UAV Platforms. IEEE Robotics and Automation Letters, 6(4), 8094-8101. DOI: 10.1109/LRA.2021.3095035
- [J3]      Yu, P.\* , **Su, Y.\***, Gerber, M. J., Ruan, L., & Tsao, T. C. (2021). "An Over-Actuated Multi-Rotor Aerial Vehicle With Unconstrained Attitude Angles and High Thrust Efficiencies," IEEE Robotics and Automation Letters, 6(4), 6828-6835. DOI: 10.1109/LRA.2021.3095035
- [J2]      Luo, J., Gong, Z., **Su, Y.**, Ruan, L., Zhao, Y., Asada, H. H., & Fu, C. (2021). Modeling and Balance Control of Supernumerary Robotic Limb for Overhead Tasks. IEEE Robotics and Automation Letters, 6(2), 4125-4132. DOI: 10.1109/LRA.2021.3067850
- [J1]      Luo, J., **Su, Y.**, Ruan, L., Zhao, Y., Kim, D., Sentis, L., & Fu, C. (2019). Robust Bipedal Locomotion Based on a Hierarchical Control Structure. Robotica, 37(10), 1750-1767. DOI: 10.1017/S0263574719000237

## Conference Paper (\*indicates joint first authors)

- [C4] **Su, Y.\***, Chu, C.\*, Wang, M., Li, J., Yang, L., Zhu, Y., & Liu, H. (2022). Downwash-aware Control Allocation for Over-actuated UAV Platforms. In 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS). IEEE.
- [C3] Pi, C., Ruan, L., Yu, P., **Su, Y.**, Cheng, S., & Tsao, T. C.(2021). A simple six degree-of-freedom aerial vehicle built on quadcopters. In 2021 IEEE Conference on Control Technology and Applications (CCTA).
- [C2] Wang, M., **Su, Y.**, Liu, H., & Xu, Y. (2020). WalkingBot: Modular Interactive Legged Robot with Automated Structure Sensing and Motion Planning. In 2020 29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN) (pp. 307-312). IEEE.
- [C1] Lin, X., Krishnan, H., **Su, Y.**, & Hong, D. W. (2018,). Multi-limbed robot vertical two wall climbing based on static indeterminacy modeling and feasibility region analysis. In 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) (pp. 4355-4362). IEEE.

## Dissertation

Su, Y."Compensation and control allocation with input saturation limits and rotor faults for multi-rotor copters with redundant actuations." PhD diss., University of California, Los Angeles, 2021.

## INTERNSHIP

---

Robotics Engineer at DMAI, Los Angeles, CA 90024

01/2018-04/2020

## PERSONAL EXPERIENCE

---

- Recommended for admission to Harbin Institute of Technology (HIT) without examination 03/2009
- First Prize of National Olympiad in Informatics in Provinces, Hebei, China 11/2008
- Second Prize of National Olympiad in Informatics in Provinces, Hebei, China 11/2007

## HONORS AND AWARDS

---

- The Excellent Graduate of HIT (3%)
- The Second Prize of Summer Social Practice in HIT
- Merit Students for three times (6%)
- The First Prize Scholarship of "Accompanying Grows" (3%)
- People's Scholarship for eight times (3%)
- The Third-class scholarship of SMC (8%)

## SKILLS

---

- **Programming:** Pascal, C, C++, VB, Python, Raspberry Pi, Arduino
- **Simulation Tool:** ROS/Gazebo, V-rep, Openai Gym/Mujoco
- **Software:** MATLAB/Simulink, LabVIEW
- **CAD:** AutoCAD, SolidWorks

## PERSONAL SERVICE

---

**Journal Reviewer:** Robotica, IEEE RA-L