# Yao   Su

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## 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)**

    Research Scientist in Robotics      06/2021–Present

**Mechatronics and Control Laboratory(MacLab)**

    Graduate Student Researcher, Advisor: Dr.Tsu-Chin Tsao      09/2017–06/2021

**Robotics and Mechanisms Laboratory(RoMeLa)**

    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)

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

# SKILLS

- **Programming**: Pascal, C, C++, VB, Python, Rasberry 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