

Yu ZHAO

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Education

Aug/2013–Present	University of California at Berkeley,	Mechanical Engineering Ph.D candidate , estimated graduate by 2018 , Advisor: Masayoshi Tomizuka, GPA 3.95
Aug/2005–Jun/2013	Tsinghua University	B.S., M.S., Mechanical Engineering

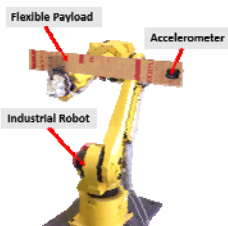
Skills & Expertise

Skills	MATLAB/Simulink, CAD (Pro/ENGINEER, SolidWorks, AutoCAD), ROS, Python, C/C++, robotics, deep learning, control, MCU, Ubuntu/Linux
Expertise & interests	Dynamics, Control, Simulation, Robotics

Working Experience

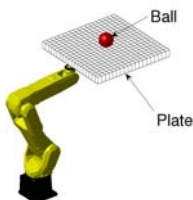
Jun./2016–Aug./2016	Energid Technologies (Software, Cambridge, MA, U.S.)	Internship
	Online trajectory generation. Developing program to generate smooth trajectory with bounded velocity, acceleration, and jerk on line.	
Jun.-Jul./2015 Sep./16	FANUC (Robotics company, Yamanashi, Japan)	Internship
	Vibration suppression study for industrial robots.	
Jul./2011–Aug./2011	Changhong (Automotive equipment, China)	Internship
	Design of an automobile coating conveyor. The work got a design patent.	

Selected Projects



Intelligent motion control of robot manipulators

- Modeling and analysis of robot dynamics with flexibility
- Dynamics and control simulation & experiment
- Nonlinear control & neural network based control
- Vibration suppression with zero-time-delay input shaping



Optimal Manipulation of Ball-Plate System

- Simulation of robotics kinematics and contact dynamics
- Fast rendering in MATLAB
- Optimal feedback control design



Spraying robot

- Innovated machine design
- Virtual prototype design using CAD & motion simulation (Pro/E)

Selected Publications

- [1] **Zhao, Yu**, Wenjie Chen, Te Tang, and Masayoshi Tomizuka. "Zero time delay input shaping for smooth settling of industrial robots." In *Automation Science and Engineering (CASE), 2016 IEEE International Conference on*, pp. 620-625. IEEE, 2016.
 - [2] **Zhao, Yu**, Cong Wang, Xiaowen Yu, and Masayoshi Tomizuka. "Complete Dynamic Modelling of Flexible Joint Robots." In *ASME 2015 Dynamic Systems and Control Conference*, pp. V001T18A003-V001T18A003. American Society of Mechanical Engineers, 2015.
 - [3] Yu, Xiaowen, Cong Wang, **Yu Zhao**, and Masayoshi Tomizuka. "Controller design and optimal tuning of a wafer handling robot." In *Automation Science and Engineering (CASE), 2015 IEEE International Conference on*, pp. 640-646. IEEE, 2015.
 - [4] Wang, Cong, **Yu Zhao**, Yubei Chen, and Masayoshi Tomizuka. "Nonparametric statistical learning control of robot manipulators for trajectory or contour tracking." *Robotics and Computer-Integrated Manufacturing* 35 (2015): 96-103.
 - [5] Wang, Cong, **Yu Zhao**, Chung-Yen Lin, and Masayoshi Tomizuka. "Fast planning of well conditioned trajectories for model learning." In *Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ International Conference on*, pp. 1460-1465. IEEE, 2014.
 - [6] Yu, Xiaowen, Cong Wang, **Yu Zhao**, and Masayoshi Tomizuka. "Dynamics modeling and identification of a dual-blade wafer handling robot." In *ASME 2013 Dynamic Systems and Control Conference*, pp. V003T39A004-V003T39A004. American Society of Mechanical Engineers, 2013.
 - [7] **Zhao, Yu**, Tiemin Li, Xiaowen Yu, Xiaoqiang Tang, and Liping Wang. "Mobility analysis of a Sarrus Linkage-like 7-R single closed loop mechanism." In *Robotics and Automation (ICRA), 2013 IEEE International Conference on*, pp. 4171-4176. IEEE, 2013.
 - [8] **Yu, Zhao**, Li Tiemin, and Tang Xiaoqiang. "Geometric error modeling of machine tools based on screw theory." *Procedia Engineering* 24 (2011): 845-849.
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Patents

Cable traction automobile coating conveyor, CN 102616668 A

Awards & Honors

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| 2015 | Student Travel Honorariums for ASME student member attending academic conferences |
| 2015 | Conference Travel Grants by Berkeley Graduate Division for attending academic conferences |
| 2014 | Nonresident Tuition Fellowship by Dept. ME, UC Berkeley |
| 2008 | Tsinghua University 12.9 Scholarship (For top 5% students in ME department) |
| 2008 | Beijing College Student Mechanical Design Competition, 2 Second Prizes (top 5%) |
| 2005 | Tsinghua University Freshman Mechanical Design Competition, Best Creativity Award |
| 2005 | Tsinghua University Freshman Mechanical Design Competition, Second Prize (top 3) |
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