Yifan Zhu

(615) 336-2870
yifan.zhu@yale.edu
https://yifanzhu95.github.io/

ACADEMIC AP-POINTMENTS

Yale University, CT
Postdoctoral Research Scholar at The Yale GRAB Lab　　　　　*Aug 2023 -*

EDUCATION

University of Illinois Urbana-Champaign, Champaign, IL
Ph.D. in Computer Science　　　　　*Aug 2023*

Duke University, Durham, NC
Ph.D. in Electrical and Computer Engineering(transferred)　　*Aug. 2017-Aug. 2019*

Vanderbilt University, Nashville, TN
Bachelor of Engineering　　　　　*May 2017*
Major: Mechanical Engineering
Minors: Mathematics and Computer Science

INDUSTRY EXPERIENCE

Baidu Robotics & Autonomous-driving Lab, Sunnyvale, CA
Research Intern　　　　　*May - Dec. 2021*

UNDER REVIEW

Y. Zhu*, *Mei Hao**, *Xupeng Zhu**, *Quentin Bateux, Alex Wong, and Aaron Dollar, "Forces for Free: Vision-Based Contact Force Estimation with a Compliant Hand," In submission to Science Robotics.*

Y. Zhu*, *P. Thangeda**, *E L Tevere, A. Goel, E. Kramer, H D Nayar, M. Ornik, K. Hauser. "Few-shot Scooping Under Domain Shift via Simulated Maximal Deployment Gaps," In submission to the Internal Journal of Robotics Research (IJRR).*

J. Kim* *,***Y. Zhu***, *and A. Dollar. "Contact Estimation in Unstructured Environment through Approximate Local Geometry," In submission to IEEE International Conference on Robotics and Automation (ICRA), 2024.*

REFEREED CONFERENCE AND JOURNAL PUBLICATION

Shaoxiong Yao, **Y. Zhu**, *Kris Hauser. "Structured Bayesian Meta-Learning for Data-Efficient Visual-Tactile Model Estimation," Conference on Robot Learning (CoRL), 2024.*

J. Marques*, *P. Naughton**, *J. C. Peng**, **Y. Zhu***,*J. S. Nam, Q. Kong, X. Zhang, A. Penmetcha, R. Ji, N. Fu, V. Ravibaskar, R. Yan, N. Malhotra, and K. Hauser, "Immersive Commodity Telepresence with the TRINA Robot Avatar," International Journal of Social Robots (IJSR), 2024.*

P. Thangeda, A. Goel, E. L. Tevere, **Y. Zhu**, *E. Kramer, A. Daca, H. D. Nayar, K. Hauser, M. Ornik, "Learning and Autonomy for Extraterrestrial Terrain Sampling:*

An Experience Report from OWLAT Deployment," *AIAA SCITECH 2024 Forum*, *2024.*

Y. Zhu*, P. Thangeda*, M. Ornik, and K. Hauser. "Few-shot Adaptation for Manipulating Granular Materials Under Domain Shift," *Robotics: Science and Systems (RSS) 2023.*

Y. Zhu, L. Wang, and L. Zhang. "Excavation of Fragmented Rocks with Multimodal Model-based Reinforcement Learning," *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022.*

Y. Zhu, A. Smith, and K. Hauser. "Automated Heart and Lung Auscultation in Robotic Physical Examinations," *IEEE Robotics and Automation Letters (RA-L) with ICRA 2022 option.*

Q. Lu*, **Y. Zhu***, and L. Zhang. "Excavation Reinforcement Learning Using Geometric Representation," *IEEE Robotics and Automation Letters (RA-L) with ICRA 2022 option.*

Y. Zhu, Z. Pan, and K. Hauser. "Contact-Implicit Trajectory Optimization With Learned Deformable Contacts Using Bilevel Optimization," *IEEE International Conference on Robotics and Automation (ICRA) 2021.*

G. Ma, S. Oca, **Y. Zhu**, P. J. Codd., and D. Buckland. "A Novel Robotic System for Ultrasound-guided Peripheral Vascular Localization,"*IEEE International Conference on Robotics and Automation (ICRA) 2021.*

Y. Zhu, K. Lu, and K. Hauser. "Semi-Empirical Simulation of Learned Force Response Models for Heterogeneous Elastic Objects," *IEEE International Conference on Robotics and Automation (ICRA) 2020.*

Y. Zhu, L. Abdulmajeid, and K. Hauser. "A Data-driven Approach for Fast Simulation of Robot Locomotion on Granular Media," *IEEE International Conference on Robotics and Automation (ICRA) 2019.*

Y. Zhu, P. J. Swaney, I. S. Godage, R. Lathrop, and R. J. Webster. "A Disposable Robot for Intracerebral Hemorrhage Removal," *Journal of Medical Devices, 2016.*

* Denotes equal contribution.

REFEREED WORKSHOP PAPERS

P. Naughton, S. Nam, J. Marques, J. Peng, **Y. Zhu**, Q. Kong, and K. Hauser. "Pan-Tilt-Roll Televisualization With Adjustable Baseline Stereo," *ICRA Workshop: 2nd Workshop Toward Robot Avatars, 2023.*

J. Marques, J. Peng, P. Naughton, **Y. Zhu**, and K. Hauser. "Commodity Telepresence with the AvaTRINA Nursebot in the ANA Avatar XPRIZE Finals," *ICRA Workshop: 2nd Workshop Toward Robot Avatars, 2023.*

J. Marques*, P. Naughton*, **Y. Zhu***, N. Malhotra, and K. Hauser. "Commodity Telepresence with the AvaTRINA Nursebot in the ANA Avatar XPRIZE Semifinals," *RSS Workshop: Toward Robot Avatars: Perspectives on the ANA Avatar XPRIZE Competition, 2022.*

Y. Zhu, A. Smith, and K. Hauser. "Informative path planning for automatic robotic

auscultation," *ICRA Workshop on Impact of COVID-19 on Medical Robotics and Wearables Research, 2021.*

EXPERIENCE	***ANA Avatar XPRIZE***	*Sept. 2019 - Nov. 2022*

- *One of the team leads on teem AVATRINA that scored 4 th in the ANA Avatar XPRIZE final, one of the only 4 teams that finished all 10 tasks.*

TEACHING(TA)	*Intelligent Robotics (UIUC)*	*Spring 2020*
	Intro to Robotics and Automation (Duke University)	*Fall 2018*
	Intro to Robotics (Vanderbilt University)	*Fall 2015 and Fall 2016*

PROFESSIONAL ACTIVITIES *Reviewer for: IEEE International Conference on Robotics and Automation (ICRA); IEEE International Conference on Intelligent Robots and Systems (IROS); IEEE Robotics and Automation Letters (RA-L); IEEE Transactions on Robotics (T-RO); IEEE International Conference on Advanced Robotics (ICAR); IEEE Robotics & Automation Magazine (RAM)*

LINKS *AVATAR XPRIZE team website: https://avatarxprize.web.illinois.edu/*