KUN ZHANG

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EDUCATION

- **Hong Kong University of Science and Technology**, Hong Kong SAR, China 2019.08-present
  Ph.D. Candidate in Electronic and Computer Engineering, **Robotics Institute**; *GPA:* 3.433/4
  Supervisors: Prof. Michael Yu WANG, Prof. Yiwen WANG
- **Southern University of Science and Technology**, Shen Zhen, China 2021.10-2022.09
  Visiting Research Student in Department of Mechanical and Energy Engineering
  Supervisor: Prof. Wei ZHANG
- **University of Macau**, Macau SAR, China 2016.09-2019.06
  M.S. in Electromechanical Engineering; *GPA:* 3.52/4
  State Key Laboratory of Internet of Things for Smart City
  Supervisor: Prof. Zhixin YANG
- **Harbin Engineering University**, Harbin, China 2012.08-2016.07
  B.E. in Mechanical Design, Manufacturing and Automation; *GPA:* 84.22/100
  Supervisor: Prof. Jinxing ZHENG

WORK EXPERIENCE

- Tencent Robotics-X Lab Control Center Intern 2021.05-2021.08
- Shenzhen Dorabot Company Robotics Software Intern 2019.08-2019.12
- Helper of the Office of Health, Safety and Environmental Affairs of UM 2016.10-2018.12
- Shenyang Airplane Industry (Group) Limited Company Intern 2016.03-2016.05
- Dalian Shipping Heavy Industry Group Company Intern 2015.07-2015.09
- Header of the Competition Sector of HEU Free-carbon Vehicle Association 2014.05-2016.05

SKILLS

- Programming Languages: Python == Matlab > C++
- 3D Design: Pro/E, Sharp3D, Blender
- Simulation: Coppeliasim, PyBullet
- Platforms: Linux, LaTeX, ROS, OpenCV, Open3D
- Others: Wordpress, VN, Microsoft Offices
- Languages: Mandarin(Native speaker), English(IELTS6), Cantonese(Novice), German(A2)

RESEARCH PROJECTS

- **Deformable object manipulation: Cloth-like** 2022.10-present
  Based on data augumentation, key point detection and reinforcement learning
- **Design and test of a dexterous gripper** 2022.10-present
  Mainly for deformable objects grasp
- **Peg-in-hole manipulation: USB,HDMI,RJ45** 2021.10-2022.09
  Bashed on vision-aided detection and compliant control

- **Joggling manipulation: Toss and throw** 2021.05-2021.08
  Based on reinforcement learning

- **Design and test of a novel mobile manipulator** 2021.02-2021.05
  Based on ROS, integrated with multi-sensors: Lidar, depth camera, etc.

- **Nonprehensile manipulation: Ball balancing** 2020.07-2020.11
  Based on motion capture system and 7-DoF manipulator

- **Design and test of a novel modular force control manipulator** 2020.02-2020.07
  Modular design, Force joint control, 4-DoF/6-DoF

- **Machine tools recognition system** 2017.09-2018.05
  bashed on ELM-embedded deep learning

- **汇交式手术机器人的关键技术研究** 2015.10–2016.05
  国家级大学生创新创业训练计划 *(Principal).* 中国：*201510217050* 指导教师：于凌涛

- **冰箱冰柜用智能节能自动关门装置** 2014.10–2015.05
  国家级大学生创新创业训练计划 *(Principal).* 中国：*201410217077* 指导教师：郭清

PUBLICATIONS

[1] **Kun Zhang**, Chen Wang, Hua Chen, Jia Pan, Michael Yu Wang, and Wei Zhang, "Vision-based Six-Dimensional Peg-in-Hole for Practical Connector Insertion", Submitted to *IEEE International Conference on Robotics and Automation (ICRA), 2023.*

[2] Lipeng Chen, Weifeng Lu, **Kun Zhang**, Yizheng Zhang, Longfei Zhao, and Yu Zheng,"TossNet: Learning to Accurately Measure and Predict Robot Throwing of Arbitrary Objects with Proprioceptive Sensing", Submitted to *IEEE Transactions on Robotics (T-RO)*

[3] L. Luo, Z. Yang, L. Tang and **K. Zhang**, An ELM-Embedded Deep Learning Based Intelligent Recognition System for Computer Numeric Control Machine Tools. IEEE Access, vol. 8, pp. 24616-24629, 2020, doi: 10.1109/ACCESS.2020.2965284.

[4] Wang, X. B., Miao, P., **Zhang, K.**, Zhang, X., & Wang, J. (2019). Study on novel signal processing and simultaneous-fault diagnostic method for wind turbine. Transactions of the Institute of Measurement and Control, 014233121984926. https://doi.org/10.1177/0142331219849261

[5] Yang Z X, Tang L, **Zhang K**, et al. Multi-View CNN Feature Aggregation with ELM Auto-Encoder for 3D Shape Recognition[J]. Cognitive Computation, 2018, 10(2).

[6] **Zhang. K.** Tang, L.L. Yang. Z.X.* Luo, L.Q. Intelligent Machine Tools Recognition Based on Hybrid CNNs and ELMs Networks. Proceedings of ELM-2018. Singapore. Nov 21-23, 2018. (**Oral**)

[7] 郭清, **张坤**, 祝海波, 孙蓉, 离心式控速闭门装置 [P]. 中国: 201520896231.5, 2016.05.04

[8] 郭清, **张坤**, 祝海波, 基于 TRIZ 理论的安全节能闭门装置创新设计 [J]. 科技资讯, 2015, 1(12): 2-2.

ACADEMIC SERVICES

- Reviewer for IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS 2021)
- Reviewer fot Journal of Healthcare Engineering

HONORS AND AWARDS

- **Postgraduate Scholarship of HKUST** 2019-2023
- **Postgraduate Scholarship of Macau Government (CTABE)** 2016-2019
- **Student scholarship of HEU** 2012-2016
- ***2nd Prize***, Award on the 4th Method of TRIZ, college innovation contest 2016.05
- ***2nd Prize***, Award on the Heilongjiang college engineering ability contest 2015.12
- ***1st Prize***, Award on the 3rd HEU college engineering ability contest 2014.12

- ***3rd Prize***, Award on the 2nd HEU physical instrument innovation design contest 2014.10
- ***3rd Prize***, Award on the 19th HEU "54 Cup" college technology innovation contest 2013.10
- ***1st Prize***, Award on the 4th HEU "Sailing Cup" college technology innovation contest 2012.11
- **Academic Proof of APS** (Akademische Prüfstelle Kulturreferat der Deutschen Botschaft Peking) 2015.11
- **Outstanding volunteer**, Award on the 7th International College Snow Sculpture contest 2015.12
- **Outstanding volunteer**, Award on the 3rd Method of TRIZ, college innovation contest 2014.05