

# Xinyi Zhang

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## EDUCATION

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**Ph. D. in Engineering** **04/2020 – 09/2023**

Graduate School of Engineering Science, Osaka University, Japan

Advisor: Prof. Kensuke Harada

**Master of Engineering** **04/2018 – 03/2020**

Graduate School of Engineering Science, Osaka University, Japan

Advisor: Prof. Kensuke Harada

**Bachelor** **09/2012 – 07/2016**

Information Management and Information System, Tianjin University, China

## WORK EXPERIENCE

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**Research Scientist** **10/2023 - Present**

Sony R&D

## PUBLICATIONS

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### Journal Paper (Peer-Reviewed)

- [1] **Xinyi Zhang\***, Yukiyasu Domae, Weiwei Wan, Kensuke Harada A Closed-Loop Bin Picking System for Entangled Wire Harnesses using Bimanual and Dynamic Manipulation. Robotics and Computer-Integrated Manufacturing, 2023. [webpage](#), [paper](#).
- [2] **Xinyi Zhang\***, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Learning to Dexterously Pick or Separate Tangled-Prone Parts for Industrial Bin Picking. IEEE Robotics and Automation Letters (RA-L), 2023. [webpage](#), [paper](#).
- [3] **Xinyi Zhang\***, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Learning a Sequential Policy of Efficient Actions for Tangled-Prone Parts in Robotic Bin Picking. IEEE Robotics and Automation Letters (RA-L), 2022. (Presented at ICRA 2023). [webpage](#), [paper](#).
- [4] Kaidi Nie, Felix von Drigalski, Joshua C. Triyonoputro, Chisato Nakashima, Yoshiya Shibata, Yoshinori Konishi, Yoshihisa Ijiri, Taku Yoshioka, Yukiyasu Domae, Toshio Ueshiba, Ryuichi Takase, **Xinyi Zhang**, Damien Petit, Ixchel G. Ramirez-Alpizar, Weiwei Wan & Kensuke Harada. Team O2AS' approach for the task-board task of the World Robot Challenge 2018. Advanced Robotics, 2020. [paper](#).

### International Conferences (Peer-Reviewed)

- [5] Mizuki Takasu, **Xinyi Zhang\***, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Industrial Bin Picking of Potential Entangled Objects in Dense Clutter by Skeletonized Shape Restoration. 18th International Symposium on Experimental Robotics (ISER), 2023.

- [6] **Xinyi Zhang\***, Keisuke Koyama, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. A Topological Solution of Entanglement for Complex-shaped Parts in Robotic Bin-picking. IEEE International Conference on Automation Science and Engineering (CASE), 2021. (**IEEE Robotics and Automation Society Japan Joint Chapter Young Award**). [paper](#).

## Domestic Conferences

- [7] **Xinyi Zhang**, Weiwei Wan, Yukiyasu Domae, Kensuke Harada. Initial Experiments on Picking Entangled Wire Harnesses using Dynamic Manipulation. ROBOMECH2023.
- [8] Mizuki Takasu, **Xinyi Zhang**, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Bin-Picking for Potential Entangled Object by Linearing Image of the Pile. SI2022. (**Best Presentation Award**)
- [9] **Xinyi Zhang**, Weiwei Wan, Yukiyasu Domae, Kensuke Harada. Learning Dexterous Bin Picking Policies for Picking and Separating Tangled-Prone Parts. RSJ2022.
- [10] **Xinyi Zhang**, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Efficiently Picking Tangled-Prone Parts by Learning a Sequential Bin Picking Policy. SICE SI2021. (**Best Presentation Award**)
- [11] **Xinyi Zhang**, Keisuke Koyama, Yukiyasu Domae, Weiwei Wan, Kensuke Harada. Topology-based Grasp Detection Avoiding Entanglement for Robotic Bin-picking. SI2020. (**Young Scientist Incentive Award, Best Presentation Award**)
- [12] **Xinyi Zhang**, Keisuke Koyama, Weiwei Wan, Yukiyasu Domae, Kensuke Harada. Motion Generation for Separating Tangled Objects in Robotic Bin-picking. SCI'20.
- [13] **Xinyi Zhang**, Damien Petit, Yukiyasu Domae, Ixchel G. Ramirez-Alpizar, Weiwei Wan, Kensuke Harada. Error Analysis and Adjustment on Randomized Bin-picking. SI2019.
- [14] **Xinyi Zhang**, Damien Petit, Yukiyasu Domae, Ixchel G. Ramirez-Alpizar, Weiwei Wan, Kensuke Harada. A Real-time Robotic Calibration Method for Vision-based Bin-picking. ROBOMECH2019.

## PATENTS

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- [1] 原田研介, **張馨藝 (Xinyi Zhang)**, 堂前幸康, 万偉偉, 森建郎. ワーク取出し装置. 特開 2023-095329, 2023.
- [2] 原田研介, 万偉偉, 堂前幸康, **張馨藝 (Xinyi Zhang)**, 森建郎, 吹田和嗣, 五十嵐淳. ワーク取り出し装置、ワーク取り出し方法、プログラム及び制御装置. 特開 2021-186542, 2021.

## AWARDS AND HONORS

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<b>Best Presentation Award</b> (優秀講演賞) SICE SI2021	<b>12/2021</b>
<b>Young Scientist Incentive Award</b> (若手奨励賞) SICE SI Division	<b>12/2021</b>
<b>Japan Joint Chapter Young Award (IROS, CASE2021)</b> IEEE Robotics and Automation Society	<b>10/2021</b>
<b>Scholarship</b> Kobayashi Foundation (公益財団法人小林財団)	<b>04/2021 – 03/2023</b>
<b>Best Presentation Award</b> (優秀講演賞)	<b>12/2020</b>

SICE SI2020