

# Guo Ning, Ph.D.

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🌐 <https://gabriel-ning.github.io/>



## Employment History

- 2018.3 – 2020.10 📌 **Algorithm Engineer.** Seizet Technology Co., Ltd.  
Focusing on robotic de-palletizing and bin picking with 3D vision.
- 2017.1 – 2017.7 📌 **Algorithm Engineer.** TEINYO Medical Robot, HIT ROBOT GROUP.  
Focusing on dynamic modeling and control of upper-limb rehabilitation robot.

## Education

- 2019 – 2024 📌 **Ph.D., Southern University of Science and Technology** in Mechanics.  
Thesis title: *Soft Robotic Perception Mechanism via Vision-Based Tactile Reconstruction and its Amphibious Applications in Dexterous Manipulation.*
- 2015 – 2017 📌 **M.Sc., Harbin Institute of Technology** in Mechanical Engineering.  
Thesis title: *Research on Control Strategy of Upper-Limb Exoskeleton Robot for Neurorehabilitation.*
- 2010 – 2015 📌 **B.Eng. Elite Class, Harbin Institute of Technology** in Mechanical Engineering.  
Thesis title: *Design of a Novel Steering Gear Load Simulator.*

## Research Publications

### Journal Articles

- 1 **Ning Guo**, X. Han, S. Zhong, *et al.*, “Proprioceptive state estimation for amphibious tactile sensing,” *IEEE Transactions on Robotics (Under Review, 1st Round Review Replied)*, [🔗 URL: https://arxiv.org/abs/2312.09863](https://arxiv.org/abs/2312.09863).
- 2 **Ning Guo**, X. Han, X. Liu, *et al.*, “Autoencoding a soft touch to learn grasping from on-land to underwater,” *Advanced Intelligent Systems*, 2024, ISSN: 2640-4567. [🔗 DOI: 10.1002/aisy.202300382](https://doi.org/10.1002/aisy.202300382), **Selected as the Front Cover for the January 2024 issue.**
- 3 **Ning Guo**, X. Han, S. Zhong, *et al.*, “Reconstructing soft robotic touch via in-finger vision,” *Advanced Intelligent Systems*, 2024, ISSN: 2640-4567. [🔗 DOI: 10.1002/aisy.202400022](https://doi.org/10.1002/aisy.202400022), **Selected as the Cover Article for the September 2024 Issue.**
- 4 X. Han, **Ning Guo**, Y. Jie, H. Wang, F. Wan, and C. Song, “On flange-based 3d hand-eye calibration for soft robotic tactile welding,” *Measurement (Under Review, 1st Round Review Replied)*, 2023.
- 5 X. Liu, X. Han, **Ning Guo**, F. Wan, and C. Song, “Bio-inspired proprioceptive touch of a soft finger with inner-finger kinesthetic perception,” *Biomimetics*, 2023, ISSN: 2313-7673. [🔗 DOI: 10.3390/biomimetics8060501](https://doi.org/10.3390/biomimetics8060501).
- 6 H. Wang, X. Liu, N. Qiu, **Ning Guo**, F. Wan, and C. Song, “Deepclaw 2.0: A data collection platform for learning human manipulation,” *Frontiers in Robotics and AI*, 2022, ISSN: 2296-9144. [🔗 DOI: 10.3389/frobt.2022.787291](https://doi.org/10.3389/frobt.2022.787291).
- 7 H. Jiang, X. Han, Y. Jing, **Ning Guo**, F. Wan, and C. Song, “Rigid-soft interactive design of a lobster-inspired finger surface for enhanced grasping underwater,” *Frontiers in Robotics and AI*, 2021, ISSN: 2296-9144. [🔗 DOI: 10.3389/frobt.2021.787187](https://doi.org/10.3389/frobt.2021.787187).

## Conference Proceedings

- 1 F. Wan, X. Liu, **Ning Guo**, X. Han, F. Tian, and C. Song, "Visual learning towards soft robot force control using a 3d metamaterial with differential stiffness," in *5th Conference on Robot Learning (CORL)*, London, UK, 2022.
- 2 H. Jiang, Y. Jing, **Ning Guo**, W. Guo, F. Wan, and C. Song, "Lobster-inspired finger surface design for grasping with enhanced robustness," in *IEEE 4th Conference on Soft Robotics (ROBOSOFT)*, New Haven, CT, USA, 2021.

## Skills

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Languages	■	Strong reading, writing and speaking competencies for English.
Coding	■	C++, Python, Matlab, XML/XSL, L <sup>A</sup> T <sub>E</sub> X, ...
Software	■	PyTorch, NVIDIA Omniverse, Pinocchio, Mujoco, ...
Misc.	■	Expert in Robot Skills Learning, Control System and Software Development. Rich experience in developing robot simulation and hardware deployment. Good skills in academic research and publishing. Focused on Embodied AI, especially solving real-world manipulation tasks.

## Miscellaneous Experience

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### Awards and Achievements

- 2020 ■ **3rd Prize** in the 6th China International College Students' 'Internet+' Innovation and Entrepreneurship Competition, Southern University of Science and Technology.
- **Silver Award** in the 12th 'Challenge Cup' Guangdong University Students Entrepreneurship Competition.
- 2024 ■ **Gold Award** in the 14th 'Challenge Cup' Guangdong University Students Entrepreneurship Competition.

## References

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