# WENJIE YIN (印文杰)

Lindstedtsvägen 24, office 304, Stockholm, Sweden 114-28

+46 76-409-0679 | +86 138-6786-4580 | yinw@kth.se | yinwenjie.me

*With hands-on experience applying the techniques of **deep learning** and **robotics** in human-robot analysis and in multi-modal motion analysis, I am passionate about further integrating the advances of artificial intelligence technologies into real-world applications, such as autonomous systems and multimedia platforms.*

## EDUCATION

**KTH Royal Institute of Technology**, Stockholm, Sweden — Mar 2024 - Present
*Postdoc Fellow in Division of Robotics, Perception and Learning (RPL)*
*Advisor: Prof. Danica Kragic*

**KTH Royal Institute of Technology**, Stockholm, Sweden — Jun 2019 – Mar 2024
*Ph.D. in Division of Robotics, Perception and Learning (RPL)*
*Supervisors: Prof. Mårten Björkman and Prof. Danica Kragic*

**National Institute of Informatics (NII)**, Tokyo, Japan — Mar 2023 –Aug 2023
*Visiting Researcher in Digital Content and Media Sciences Research Division*
*Advisor: Prof. Yi Yu*

**KTH Royal Institute of Technology**, Stockholm, Sweden — Aug 2017 – Jul 2019
*M.S. in Systems, control and robotics (3+2); Track: Robotics and Autonomous System* — *GPA: 4.82/5.00*
*Honored with Scholarship (1%); Supervisor: Prof. Atsuto Maki*

**Zhejiang University**, Hangzhou, China — Sep 2014 – Jul 2018
*B.E. in Automation, Control Science and Engineering College* — *GPA: 3.90/4.00*
*Outstanding Graduate of Zhejiang University (Top 10%); Supervisor: Prof. Wei Jiang*

## RESEARCH INTEREST

- **Human Motion Analysis** (Motion understanding, Dance style transfer, Dance choreography)
- **Human Agent Interaction** (Human-human/robot interaction, group behaviors, Multimedia)
- **Deep Learning** (Generative models, Graph neural networks, Foundation Models)

## PUBLICATIONS

**Human Motion Analysis**

1. **Yin, W.,** Yu, Y., Yin, H., Kragic, D., Björkman, M., (2024). Scalable Motion Style Transfer with Constrained Diffusion Generation. *Accepted at the 38th Annual AAAI Conference on Artificial Intelligence (**AAAI**).*
2. Fu, J., Tan, J., **Yin, W.,** Pashami, S., Björkman, M., Component Attention Network for Multimodal Dance Improvisation Recognition., (2023). *Accepted at 25th ACM International Conference on Multimodal Interaction (**ICMI**)*
3. **Yin, W.,** Tu, R., Yin, H., Kragic, D., Kjellström, H., Björkman, M., (2023). Controllable Motion Synthesis and Reconstruction with Autoregressive Diffusion Models. *Accepted at the 32th IEEE International Conference on Robot & Human Interactive Communication (**RO-MAN**).* IEEE.
4. **Yin, W.,** Yin, H., Baraka, K., Kragic, D., Björkman, M., (2023). Multimodal Dance Style Transfer. *Accepted at the Journal of Machine Vision and Applications (**MVAP**), 2023.*
5. **Yin, W.,** Yin, H., Baraka, K., Kragic, D., Björkman, M., (2023). Dance Style Transfer with Cross-modal Trasformer. *Accepted at the Winter Conference on Application of Computer Vision (**WACV**).*

6. **Yin, W.**, Yin, H., Kragic, D., Björkman, M., (2021). Graph-based Normalizing Flow for Human Motion Generation and Reconstruction. *Accepted at the 30th IEEE International Conference on Robot & Human Interactive Communication (**RO-MAN**).* IEEE.
7. **Yin**, **W.**, Yin, H., Kragic, D., Björkman, M., Long-term Human Motion Generation and Reconstruction Using Graph-based Normalizing Flow. *Accepted at the 3rd Workshop on Long-term Human Motion Prediction (LHMP) - IEEE International Conference on Robotics and Automation (**ICRA**)*.
8. Yang, F.*, **Yin, W.***, Inamura, T., Björkman, M., Peters, C., (2020). Group behavior recognition using attention-and graph-based neural networks. *Accepted at the 24th European Conference on Artificial Intelligence (**ECAI**)*. (*: Co-first author)
9. **Yin, W.,** Zhao, X., Yu, Y., Yin, H., Kragic, D., Björkman, M., (2023). LM2D: Lyric- and Music-driven Dance Generation. *(Under Review).*

**Human Agent Interaction**

10. Demir, S.U., **Yin, W.**, Ghadirzadeh, A., Güneysu, A., Björkman, M., Kragic, D. (2022). Improving EEG-based Motor Execution Classification for Robot Control. *Accepted at the 24th International Conference on Human-Computer Interaction (**HCII**)*.
11. Ghadirzadeh, A., Chen, X., **Yin, W.**, Yi, Z., Björkman, M., Kragic, D., (2020). Human-centered collaborative robots with deep reinforcement learning. *IEEE Robotics and Automation Letters (**RAL**).*
12. Yang, F.*, **Yin, W.***, Björkman, M., Peters, C., (2020). Impact of trajectory generation methods on viewer perception of robot approaching group behaviors. *Accepted at the 29th IEEE International Conference on Robot and Human Interactive Communication (**RO-MAN**).* IEEE. (*: Co-first author)
13. Luo, J., Chun, O., Nie, X., **Yin, W.**, Lu, H., Guo, Y., (2019). Accurate targeting in robot-assisted TCM pulse diagnosis using adaptive sensor fusion. *Periodicals of Engineering and Natural Sciences*.

**Other Topics**

14. Yang, F., **Yin, W.,** Wang, L., Li, T., Zhao, P., Liu, B, Wang, P., Qiao, B., Liu, Y., Björkman, M., Rajmohan, S., Lin, Q., Zhang, D. Diffusion-based Time Series Imputation for Microsoft 365. *The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (**ESEC/FSE**) Industry Track 2023.*
15. Shi, J.*, **Yin, W.***, Du, Y*., Folkesson, J., (2019). Automated Underwater Pipeline Damage Detection using Neural Nets. *Accepted at **ICRA** 2019 Workshop on Underwater Robotics Perception*. (*: Co-first author)
16. Zhou, S., **Yin, W.,** Björkman, M., Silva, A., Blázquez, C., (2023). SmartTBD: Smart Tracking for Resource-constrained Object Detection. *(Under Review, **TECS**).*
17. Zhao, X., Lee, C., **Yin, W.,** Kragic, D., (2023). ChatGPT – A new type of friend? *(Under Review, **Science Robotics**).*

## EXPERIENCE AND EMPLOYMENT

- Nov 2021 – Feb 2023, *AI/CV Consultant*, **Carieco AB** (an elderly care robot start-up)
- Nov 2022 – Jan 2023, *Visiting Fellow* at **Microsoft Research Asia Lab**, Data, Knowledge and Intelligence Group
- Jan 2019 – Jun 2019, *Thesis founded by* **Scania,** Autonomous Vehicles Group
- Jun 2018 – Sep 2018, *Research Engineer* at **Fudan University,** Intelligent Robot Research Institute
- Jun 2017 – Aug 2017, *Development Engineer Intern* at **Seer Robotics**

## PROJECTS

- D2Smell (Digitizing Smell), ERC Synergy Grant, from natural statistics of olfactory perceptual space to digital transmission of odors. Mar 2024 - Present

- EnTimeMent (ENtrainment & synchronization at multiple TIME scales in the MENTal foundations of expressive gestures), supported by EU Horizon 2020 FET PROACTIVE project. Jun 2019 – Feb 2023
- Cloud Failure Prediction for Microsoft 365, in Microsoft Research Asia Lab. Nov 2022 – Feb 2023
- Brain-Computer Interfaces (BCI) project, supported by the ERC (European Research Council) Jun 2021 – Dec 2022
- Underwater Robot, supported by SSF through the Swedish Maritime Robotics Centre (SMaRC), support by MMT Sweden AB and Gassco Norway for providing data. Mar 2018 – Aug 2018
- Autonomous interactive TCM physical examination robot, supported by National Natural Science Foundation of China (No. 61876015) Jun 2018 – Jan 2019

## TEACHING

- DD2421: Machine Learning, KTH Fall 2019 – Autumn 2023
- DD2423: Image Analysis and Computer Vision, KTH Fall 2018 – Autumn 2023
- Java Programming, ZJU Fall 2016

## SUPERVISION

- Dominykas Jogela, Group Dance Generation with Generative Models, KTH Nov 2023 - Present
- Qingyuan Yao, Lyric- and Music-driven Dance Generation, NII Mar 2023 – Aug 2023
- Shihang Zhou, Distributed Object Detection and Tracking, KTH Sep 2022 – Jun 2023
- Yang Gao, Long-Term Pose-Based Trajectory Prediction for Pedestrians, KTH Dec 2021 – Dec 2023
- Jia Fu, Multimodal Machine Learning in Human Motion Analysis, KTH Sep 2021 – Sep 2022

*(Four supervised students successfully obtained master's degrees, and two obtained PhD positions)*

## ACADEMIC SERVICE

- Program Committee (PC) Member for the first Multimodal Representation Learning Workshop at ICLR
- Reviewer for the IEEE International Conference on Robotics and Automation (ICRA)
- Reviewer for the IEEE Transactions on Multimedia
- Reviewer for the ACM Multimedia (ACM-MM)
- Reviewer for the International Journal of Human-Computer Interaction (IJHCI)
- Reviewer for the Imaging Science Journal
- Reviewer for the IEEE Robotics and Automation Letters (RA-L)

## HONORS (SELECTED)

- The International Conference on Ageless Aging (ICAA) Best Poster Award 2024
- Winter Conference on Applications of Computer Vision (WACV) Award Finalists 2023
- Scholarship of KTH awarded to students at Top 1% 2018
- Continuously three years awarded with Scholarship at Zhejiang University (Top 10%) 2015, 2016, 2017
- American College Students Mathematical Contest (MCM/ICM) (Honorable Mention) 2017
- The Supcon Scholarship for outstanding students at Zhejiang University (Top 10%) 2017
- The Supcon Process Engineering Competition (Successful-Competition) 2017
- The Phoenix Scholarship for outstanding students at Zhejiang University (Top 10%) 2016
- The Supcon Robotics Competition (Third-Class Prize Winner) 2016