

# Aoran Wang

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University of Luxembourg, 6 Avenue de la Fonte, L-4364 Esch-sur-Alzette, Luxembourg

## EDUCATION

### University of Luxembourg

*PhD in Computer Science (Focus: Machine Learning for Dynamical Systems)*

Esch-sur-Alzette, Luxembourg

*Dec. 2020 – Nov. 2024 (Expected)*

### Karlsruhe Institute of Technology

*Master of Science (Major: Autonomous Driving); GPA: 1.7/1.0*

Karlsruhe, Germany

*Oct. 2015 – Sep. 2019*

### Tongji University

*Bachelor of Engineering (Major: Structural Mechanics); GPA: 1.4/1.0*

Shanghai, China

*Sep. 2011 – Jun. 2015*

## SKILLS

**Languages:** Python (advanced), C/C++ (advanced), HTML/CSS, MATLAB, Visual Basic, LaTeX.

**Developer Tools:** Linux, Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, Slurm.

**Libraries:** PyTorch, TensorFlow, Scikit-Learn, Jupyter, pandas, NumPy, Matplotlib, CUDA.

**Techniques:** Convolutional Neural Networks, Graph Neural Networks, Variational Autoencoder, Bi-level Optimization, Active Learning, AI4Science, Dynamical Systems, Generative AI, Reservoir Computing, Graph Theory.

## EXPERIENCE

### Karlsruhe Institute of Technology

*Student Assistant*

Karlsruhe, Germany

*Dec. 2019 – Mar. 2020*

- Engineered an innovative visual localization technique using Graph Neural Networks and OpenCV to enhance the precision of monocular camera-based navigation in autonomous vehicles.
- Successfully presented and published the outcomes of the visual localization research in a peer-reviewed conference.
- Investigated combinatorial approaches to hierarchical visual localization, broadening the scope of research and uncovering potential advancements in the domain.

### Robert Bosch GmbH

*Research Intern*

Renningen, Germany

*Apr. 2018 – Aug. 2018*

- Initiated communication with the director to organize and deliver a tutorial on AUTOSAR for the research team.
- Pioneered the development of a groundbreaking diagnosis system using an extended Kalman filter for an autonomous electric vehicle prototype's electric propulsion system.
- Investigated the practicality and potential advantages of integrating modern artificial intelligence methods into self-driving cars for diagnostic purposes.

## PUBLICATIONS

- Wang, A., and Pang, J.. (2024). Structural Inference with Dynamics Encoding and Partial Correlation Coefficients (ICLR 2024). ([Link to paper.](#))
- Wang, A., Tong, T.P., and Pang, J.. (2023). Effective and Efficient Structural Inference with Reservoir Computing. Proceedings of the 40th International Conference on Machine Learning (ICML 2023). ([Link to paper.](#))
- Wang, A., and Pang, J.. (2023). Active Learning based Structural Inference. Proceedings of the 40th International Conference on Machine Learning (ICML 2023). ([Link to paper.](#))
- Wang, A., and Pang, J.. (2022). Iterative Structural Inference of Directed Graphs. Advances in Neural Information Processing Systems 35 (NeurIPS 2022). ([Link to paper.](#))
- Hu, H., Wang, A., Sons, M. and Lauer, M.. (2020). ViPNet: An End-to-End 6D Visual Camera Pose Regression Network. IEEE 23rd International Conference on Intelligent Transportation Systems (ITSC 2020). ([Link to paper.](#))

## INTERESTS

**Indoor Sports:** Fitness, Badminton, Table Tennis.

**Outdoor Sports:** Snorkeling, Sky Diving, Hiking, Skiing, Surfing.

**Arts:** Photography, Classical Music, Jazz Music.