

YIFEI CHEN

Email: yifei.chen@data61.csiro.au
Technology of CSIRO, Australia

RESEARCH INTERESTS

Deep Reinforcement Learning, Reward Shaping, Robotic Manipulation

PROFESSIONAL POSITIONS

Data61 of CSIRO, Australia

Jan. 2024 - present

Early Research Career Fellow

Quantitative Imaging Team (Jan. 2024 - Mar. 2026), Manager: [Xun Li](#)

Human-robot interaction team (Mar. 2026 - present), Manager: [Leimin Tian](#)

EDUCATION

University of Groningen (RUG), Groningen, the Netherlands

Oct. 2018 - Apr. 2025

Ph.D. in Artificial Intelligence

Thesis title: Beyond Value Estimation: Adaptive Potential Functions For Reinforcement Learning

Supervisors: Prof. dr. [Lambert Schomaker](#) and Dr. [Marco Wiering](#)

Zhejiang University, Hangzhou, China

Sep. 2015 - Jun. 2018

M.Sc. in Underwater Wireless Optical Communication

Excellent Postgraduate Students' Award

Thesis title: Experimental Research on Air-water Wireless Optical Communication System

Supervisor: Prof. [Jing Xu](#)

Nanjing University of Posts and Telecommunications, Nanjing, China

Sep. 2011 - Jun. 2015

B.Sc. in Electrical and Information Engineering

PUBLICATIONS

Boosting Reinforcement Learning Algorithms in Continuous Robotic Reaching Tasks using Adaptive Potential Functions

AJCAI 2024

Yifei Chen*, Lambert Schomaker, Francisco Cruz

The 37th Australasian Joint Conference on Artificial Intelligence

Improving Proximal Policy Optimization Algorithm in Interactive Multi-Agent Systems

ICDL 2024

Yi Shang, Yifei Chen, and Francisco Cruz

The 2024 IEEE International Conference on Development and Learning

Reinforcement Learning with Potential Functions Trained to Discriminate Good and Bad States

IJCNN 2021

Yifei Chen*, Hamidreza Kasaei, Lambert Schomaker, Marco A. Wiering

International Joint Conference on Neural Network

An Investigation Into the Effect of the Learning Rate on Overestimation Bias of Connectionist Q-learning

ICAART 2021

Yifei Chen*, Lambert Schomaker, Marco A. Wiering

The 13th International Conference on Agents and Artificial Intelligence

26 m/5.5 Gbps air-water optical wireless communication based on an OFDM-modulated 520-nm laser diode OE 2017

Yifei Chen, Meiwei Kong, Tariq Ali, Jiongliang Wang, Rohail Sarwar, Jun Han, Chaoyang Guo, Bing Sun, Ning Deng, and Jing Xu*

Optics express 25, no. 13 (2017): 14760-14765

Underwater wireless optical communication using an arrayed transmitter/receiver and optical superimposition-based PAM-4 signal OE 2018

Meiwei Kong, Yifei Chen, Rohail Sarwar, Bin Sun, Zhiwei Xu, Jun Han, Jiawang Chen, Huawei Qin, and Jing Xu*

Optics Express, vol. 26, pp. 3087-3097. 2018

Optical superimposition-based PAM-4 signal generation for visible light communication ICOCN 2017

Meiwei Kong, Yifei Chen, Rohail Sarwar, Bin Sun, Bo Cong and Jing Xu*

16th International Conference on Optical Communications and Networks, Wuzhen, China, pp. 1-3. 2017

Security weaknesses of underwater wireless optical communication OE 2017

Meiwei Kong, Jiongliang Wang, Yifei Chen, Tariq Ali, Rohail Sarwar, Yang Qiu, Shilian Wang, Jun Han, and Jing Xu*

Optics Express, vol. 25, pp. 21509-21518. 2017

Underwater wireless optical communication using a lens-free solar panel receiver OC 2018

Meiwei Kong, Bin Sun, Rohail Sarwar, Jiannan Shen, Yifei Chen, Fengzhong Qu, Jun Han, Jiawang Chen, Huawei Qin, and Jing Xu*

Optics Communications, vol. 426, no. 1, pp. 94-98. 2018

corresponding author*

PROJECTS

Science Digital Project: Improving Generalization Ability of Robotic Imitation Learning by Resolving Causal Confusion in Observations 2024-present

Yifei Chen, Yuzhe Zhang, Giovanni Durso, Ziwei Wang, Nicholas Lawrance, Brendan Tidd

Learning Potential Function in High-dimensional Games using a Novel W-shaped Network 2023

Yifei Chen, Marco A. Wiering, Lambert Schomaker

Aircraft Routing by Q-learning 2023

Yifei Chen, Mahtab Mohtasham Khani, Cheng-lung Wu

TEACHING

Pattern Recognition 2021-2022

Moderator/Guest lecturer, graduate course, RUG

Together with Maruf Dhali (Instructor) and Asmaa Haja (Moderator)

SKILLS

Python, Tensorflow, Pytorch, CoppeliaSim, Mujoco, ROS2

TALKS

A Brief Introduction to Reinforcement Learning And Some Research Directions

Guest lecture for the Pattern Recognition course, Jan. 2022

RL with Potential Functions Trained to Discriminate Good and Bad States

Oral presentation, IJCNN, Jul. 2021

Open session talk, The 4th International School on Deep Learning, Jul. 2021

Poster, Belgium-Netherlands workshop on Reinforcement Learning (BeNeRL) 2022

An Investigation Into the Effect of the Learning Rate on Overestimation Bias of Connectionist Q-learning

ICAART, Feb. 2021

EXPERIENCE

University of New South Wales, Sydney, Australia

Jan. 2023 - Jan. 2024

Visiting scholar at the robotics lab of UNSW

Supervisor: Dr. [Francisco Cruz Naranjo](#)

University of New South Wales, Sydney, Australia

Aug. 2023 - Jan. 2024

Research assistant at the Aviation department of UNSW

Supervisor: Prof. [Cheng-lung Wu](#)

REFERENCES

Dr. Brendan Tidd

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Robotics and autonomous systems group, CSIRO, Australia

Dr. Dadong Wang

Dadong.Wang@data61.csiro.au

Imaging & Computer Vision, CSIRO Data61, Australia

Prof. dr. Lambert Schomaker

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Bernoulli Institute, University of Groningen, The Netherlands