

Chang-Wei Yueh

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RESEARCH INTERESTS

Theory of machine learning and control, especially for online decision-making and optimization

EDUCATION

University of Southern California

Ph.D. in Electrical Engineering

08 2024 - present

Los Angeles, CA

National Taiwan University (NTU)

B.S. in Electrical Engineering and Mathematics

09 2019 - 01 2024

Taipei, Taiwan

GPA - 4.0/4.3 (3.85/4.0)

RESEARCH EXPERIENCES

Dept. of EE, National Taiwan University

Undergraduate Researcher (advisor: Prof. Pei-Yuan Wu)

04 2022 - 10 2022

Taipei, Taiwan

- Focused on the sample complexity of kernel-based Q-learning
- Proposed a new sample process with the access of a generative model
- Derived a near-optimal sample complexity upper bound with possibly infinite state-action space

Institute of Information Science, Academia Sinica

Research Assistant (advisor: Dr. Wen-Liang Hwang)

01 2023 - Present

Taipei, Taiwan

- Proposed a novel efficient proximal-based method for non-smooth convex optimization
- Reduce the original minimization at each iteration to an one-dimensional search problem
- Speed up 30% compared to proximal point method while maintaining the same convergence error

Dept. of ESE, Washington University in St. Louis

Summer Student Intern (advisor: Prof. Jr-Shin Li)

06 2023 - 08 2023

St. Louis, MO

- Adapted Q-learning algorithm to fit in ensemble control systems
- Tested the possibility of solving traditional control problems by data-driven approaches
- Achieved a control by a model-free procedure

PUBLICATIONS

Conference Papers

- [1] Sing-Yuan Yeh, Fu-Chieh Chang, **Chang-Wei Yueh**, Pei-Yuan Wu, Alberto Bernacchia, and Sattar Vakili. [Sample complexity of kernel-based q-learning](#). In Proceedings of The 26th International Conference on Artificial Intelligence and Statistics. PMLR, 2023

Preprints

- [1] Wen-Liang Hwang and **Chang-Wei Yueh**. [Directional proximal point method for convex optimization](#), 2023

HONORS AND AWARDS

USC Taiwan Global Fellowship

09 2023 - 06 2027

TECHNICAL SKILLS

Programming Languages: Python, C, C++, MATLAB

Toolkits: NumPy, Pandas, Scikit-Learn, PyTorch, Git, CVX