

Chen-Yu Wei

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Education

University of Southern California

Ph.D. in Computer Science

Supervisor: Haipeng Luo

Los Angeles, CA

2017 – Present

National Taiwan University

M.S. in Communication Engineering

Supervisor: Wanjiun Liao

Taipei, Taiwan

2013 – 2015

National Taiwan University

B.S. in Electrical Engineering

Taipei, Taiwan

2008 – 2012

Research Experience

Simons Institute

Student Visitor

Learning and Games

Berkeley, CA

Spring 2022

Google Research

Research Intern

Supervisor: Christoph Dann, Julian Zimmert

Reinforcement Learning

Virtual

Summer 2021

Simons Institute

Student Visitor

Theory of Reinforcement Learning

Virtual

Fall 2020

Microsoft Research

Research Intern

Supervisor: Alekh Agarwal, John Langford

Personalized Federated Learning

Redmond, WA

Summer 2019

Yahoo Research

Research Intern

Supervisor: Alina Beygelzimer, Dávid Pál, Balázs Szörényi

Bandit Classification

New York City, NY

Summer 2018

Academia Sinica

Research Assistant

Supervisor: Chi-Jen Lu

Online Learning

Taipei, Taiwan

2015 – 2017

Academia Sinica

Research Intern

Supervisor: Yi-Hsuan Yang

Music Information Retrieval

Taipei, Taiwan

Spring 2012

Stanford University

Research Intern (Undergraduate Visiting Research (UGVR) Program)

Supervisor: Boris Murmann

Circuit Design for Medical Ultrasound

Palo Alto, CA

Summer 2011

Honors & Awards

- 2022 **Prize for Excellence in Research with a Substantial Mathematical Component**, Center for Applied Mathematical Science, USC
- 2022 **Simons-Berkeley Research Fellowship**, Simons Institute for the Theory of Computing
- 2022 **Best Paper Award**, International Conference on Algorithmic Learning Theory
- 2021 **Best Paper Award**, Conference on Learning Theory
- 2020 **Best Research Assistant Award**, Computer Science Department, USC
- 2019 **Best Poster Award**, SoCal Machine Learning Symposium
- 2017 **Taiwan-USC Scholarship**, Ministry of Education, Taiwan
- 2010 **Tenth Place**, ACM International Collegiate Programming Contest – Asia Regional

Publications

Conference Papers (* indicates equal contribution or alphabetical ordering)

- A Model Selection Approach for Corruption Robust Reinforcement Learning (Best Paper Award)** *ALT 2022*
Chen-Yu Wei, Christoph Dann, Julian Zimmert
- Decentralized Cooperative Reinforcement Learning with Hierarchical Information Structure** *ALT 2022*
Hsu Kao, Chen-Yu Wei, Vijay Subramanian
- Policy Optimization in Adversarial MDPs: Improved Exploration via Dilated Bonuses** *NeurIPS 2021*
Haipeng Luo*, Chen-Yu Wei*, Chung-Wei Lee
- Achieving Near Instance-Optimality and Minimax-Optimality in Stochastic and Adversarial Linear Bandits Simultaneously** *ICML 2021*
Chung-Wei Lee*, Haipeng Luo*, Chen-Yu Wei*, Mengxiao Zhang*, Xiaojin Zhang*
- Non-stationary RL without Prior Knowledge: An Optimal Black-box Approach (Best Paper Award)** *COLT 2021*
Chen-Yu Wei, Haipeng Luo
- Last-iterate Convergence of Decentralized Optimistic Gradient Descent/Ascent in Infinite-horizon Competitive Markov Games** *COLT 2021*
Chen-Yu Wei, Chung-Wei Lee, Mengxiao Zhang, Haipeng Luo
- Impossible Tuning Made Possible: A New Expert Algorithm and Its Applications** *COLT 2021*
Liyu Chen*, Haipeng Luo*, Chen-Yu Wei*
- Minimax Regret for Stochastic Shortest Path with Adversarial Costs and Known Transition** *COLT 2021*
Liyu Chen, Haipeng Luo, Chen-Yu Wei
- Learning Infinite-horizon Average-reward MDPs with Linear Function Approximation** *AISTAT 2021*
Chen-Yu Wei, Mehdi Jafarnia-Jahromi, Haipeng Luo, Rahul Jain
- Linear Last-iterate Convergence for Constrained Saddle-point Optimization** *ICLR 2021*
Chen-Yu Wei, Chung-Wei Lee, Mengxiao Zhang, Haipeng Luo
- Adversarial Online Learning with Changing Action Sets: Efficient Algorithms with Approximate Regret Bounds** *ALT 2021*
Ehsan Emamjomeh-Zadeh*, Chen-Yu Wei*, Haipeng Luo, David Kempe
- Bias No More: High-probability Data-dependent Regret Bounds for Adversarial Bandits and MDPs (Oral)** *NeurIPS 2020*
Chung-Wei Lee*, Haipeng Luo*, Chen-Yu Wei*, Mengxiao Zhang*
- Taking a Hint: How to Leverage Loss Predictors in Contextual Bandits?** *COLT 2020*
Chen-Yu Wei, Haipeng Luo, Alekh Agarwal
- Model-free Reinforcement Learning in Infinite-horizon Average-reward Markov Decision Processes** *ICML 2020*
Chen-Yu Wei, Mehdi Jafarnia-Jahromi, Haipeng Luo, Hiteshi Sharma, Rahul Jain
- A New Algorithm for Non-stationary Contextual Bandits: Efficient, Optimal, and Parameter-free** *COLT 2019*
Yifang Chen*, Chung-Wei Lee*, Haipeng Luo*, Chen-Yu Wei*
- Improved Path-length Regret Bounds for Bandits** *COLT 2019*
Sébastien Bubeck*, Yuanzhi Li*, Haipeng Luo*, Chen-Yu Wei*
- Bandit Multiclass Linear Classification: Efficient Algorithms for the Separable Case** *ICML 2019*
Alina Beygelzimer*, Dávid Pál*, Balázs Szörényi*, Devanathan Thiruvengatathari*, Chen-Yu Wei*, Chicheng Zhang*
- Beating Stochastic and Adversarial Semi-bandits Optimally and Simultaneously (Long talk)** *ICML 2019*
Julian Zimmert, Haipeng Luo, Chen-Yu Wei

Efficient Online Portfolio with Logarithmic Regret (Spotlight) Haipeng Luo*, Chen-Yu Wei*, Kai Zheng*	NeurIPS 2018
More Adaptive Algorithms for Adversarial Bandits Chen-Yu Wei, Haipeng Luo	COLT 2018
Efficient Contextual Bandits in Non-stationary Worlds Haipeng Luo*, Chen-Yu Wei*, Alekh Agarwal, John Langford	COLT 2018
Online Reinforcement Learning in Stochastic Games Chen-Yu Wei, Yi-Te Hong, Chi-Jen Lu	NeurIPS 2017
Tracking the Best Expert in Non-stationary Stochastic Environments Chen-Yu Wei, Yi-Te Hong, Chi-Jen Lu	NeurIPS 2016

Workshop Papers

Federated Residual Learning

NeurIPS Workshop on Scalability, Privacy, and Security in Federated Learning (Spicy-FL), 2020
Chen-Yu Wei, Alekh Agarwal, John Langford

Analyzing the Variance of Policy Gradient Estimators for the Linear-Quadratic Regulator

NeurIPS Workshop on Optimization Foundations for Reinforcement Learning (OPTRL), 2019
Sébastien Arnold*, James Preiss*, Chen-Yu Wei*, Marius Kloft

Understanding the Variance of Policy Gradient Estimators in Reinforcement Learning (Best Poster Award)

SoCal Machine Learning Symposium (SoCalML), 2019
Sébastien Arnold*, James Preiss*, Chen-Yu Wei*, Marius Kloft

Selected Talks

Non-stationary RL without Prior Knowledge: an Optimal Black-box Approach, COLT Best Paper Talk	Aug. 2021
Linear Last-iterate Convergence of Constrained Saddle-point Optimization, UW Learning in Games Seminar	May. 2021
Learning Infinite-horizon Average-reward MDPs with Linear Function Approximation, RL Theory Virtual Seminars	Sep. 2020
Bandit Multiclass Linear Classification: Efficient Algorithms for the Separable Case, Theory Day, UC Riverside	Jan. 2020
Bandit Multiclass Linear Classification: Efficient Algorithms for the Separable Case, Theory Lunch, Microsoft Research	June 2019
Beating Stochastic and Adversarial Semi-bandits Optimally and Simultaneously, ICML Long Talk	June 2019
Efficient Online Portfolio with Logarithmic Regret, NeurIPS Spotlight Talk	Dec. 2018

Other Activities

Teaching Assistant

CSCI567: Machine Learning
Instructor: Haipeng Luo

Fall 2021

Teaching Assistant

CSCI270: Introduction to Algorithms and Theory of Computing course
Instructor: Shawn Shamsian

Spring 2021

Teaching Assistant

CSCI699: Introduction to Online Learning
Instructor: Haipeng Luo

Fall 2017

Reviewer

NeurIPS 2016, 2018, 2020, 2021 / ALT 2018-2021 / AISTAT 2020, 2021 / ICML 2019-2021 / COLT 2019-2022 / FOCS 2019 / AAAI 2020 / JMLR 2020, 2021 / MOR 2020 / ICLR 2021