Chen-Yu **Wei**

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Education

University of Southern California — *Los Angeles, CA*
Ph.D. in Computer Science — *2017 – Present*
Supervisor: Haipeng Luo

National Taiwan University — *Taipei, Taiwan*
M.S. in Communication Engineering — *2013 – 2015*
Supervisor: Wanjiun Liao

National Taiwan University — *Taipei, Taiwan*
B.S. in Electrical Engineering — *2008 – 2012*

Research Experience

Google Research — *Virtual*
Research Intern — *Summer 2021*
Supervisor: Christoph Dann, Julian Zimmert
Reinforcement Learning

Simons Institute — *Virtual*
Student Visitor — *Fall 2020*
Theory of Reinforcement Learning

Microsoft Research — *Redmond, WA*
Research Intern — *Summer 2019*
Supervisor: Alekh Agarwal, John Langford
Personalized Federated Learning

Yahoo Research — *New York City, NY*
Research Intern — *Summer 2018*
Supervisor: Alina Beygelzimer, Dávid Pál, Balázs Szörényi
Bandit Classification

Academia Sinica — *Taipei, Taiwan*
Research Assistant — *2015 – 2017*
Supervisor: Chi-Jen Lu
Online Learning

Academia Sinica — *Taipei, Taiwan*
Research Intern — *Spring 2012*
Supervisor: Yi-Hsuan Yang
Music Information Retrieval

Stanford University — *Palo Alto, CA*
Research Intern (Undergraduate Visiting Research (UGVR) Program) — *Summer 2011*
Supervisor: Boris Murmann
Circuit Design for Medical Ultrasound

Honors & Awards

2021	**Best Paper Award,** Conference on Learning Theory	*Boulder, Colorado*
2020	**Best Research Assistant Award,** Computer Science Department, USC	*Los Angeles, CA*
2019	**Best Poster Award,** SoCal Machine Learning Symposium	*Los Angeles, CA*
2017	**Taiwan-USC Scholarship**	*Taipei, Taiwan*
2010	**Tenth Place,** ACM International Collegiate Programming Contest – Asia Regional	*Kaohsiung, Taiwan*

Publications

Conference Papers (* indicates equal contribution or alphabetical ordering)

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 Thiruvenkatachari*, 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) *NeurIPS 2018*
Haipeng Luo*, Chen-Yu Wei*, Kai Zheng*

More Adaptive Algorithms for Adversarial Bandits *COLT 2018*
Chen-Yu Wei, Haipeng Luo

Efficient Contextual Bandits in Non-stationary Worlds *COLT 2018*
Haipeng Luo*, Chen-Yu Wei*, Alekh Agarwal, John Langford

Online Reinforcement Learning in Stochastic Games *NeurIPS 2017*
Chen-Yu Wei, Yi-Te Hong, Chi-Jen Lu

Tracking the Best Expert in Non-stationary Stochastic Environments *NeurIPS 2016*
Chen-Yu Wei, Yi-Te Hong, Chi-Jen Lu

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

Preprints

Policy Optimization in Adversarial MDPs: Improved Exploration via Dilated Bonuses
Haipeng Luo, Chen-Yu Wei, Chung-Wei Lee

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 *Fall 2021*
CSCI567: Machine Learning
Instructor: Haipeng Luo

Teaching Assistant *Spring 2021*
CSCI270: Introduction to Algorithms and Theory of Computing course
Instructor: Shawn Shamsian

Teaching Assistant *Fall 2017*
CSCI699: Introduction to Online Learning
Instructor: Haipeng Luo

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