CURRICULUM VITAE

Joseph Chuang-Chieh Lin (林莊傑)

Assistant Professor

Contact Information

Department of Computer Science and Information Engineering, Tamkang University

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Work Experience

02/2021-present **Position:** Assistant Professor

Institution: Department of Computer Science & Information Engineering, Tamkang

University.

Location: New Taipei City, Taiwan.

Description: A full-time faculty. Teaching courses 10 hours per week, working on

research projects and supervising undergraduate & master students.

01/2020-01/2021 **Position:** Quantitative Analyst.

Company: Seth Technologies Inc. (塞特科技)

Location: Taipei, Taiwan.

Description: (i) Publish (internal) weekly research journal on market microstructure, including bid-ask spreads of stocks, futures, the volatility of the spreads, market contango ratio, flickering quotes distribution, liquidity of stocks and futures, etc. (ii) Futures' contract rollover optimization. (iii) Stock short-position closing before buying-

back due. (iv) Alpha signal research.

03/2018–12/2019 **Position:** Quantitative Finance Researcher (consultant).

Company: Cubist Systematic Strategies / Point72.

Location: Taipei, Taiwan.

Description: Using machine learning models (e.g., RandomForest, SVM, Multilayer Perceptrons, LSTM, etc.) for (i) Market microstructure, market impact, and short-term forecast based on market microstructure information. (ii) Design of stop-loss/

stop-gain strategies. (iii) Back-testing of strategies.

09/2014-02/2018 **Position:** Postdoctoral Research Fellow.

Institution: Institute of Information Science, Academia Sinica.

Location: Taipei, Taiwan.

Description: Topics across machine learning and game theory. Specifically: (i) Peergrading mechanism design and analysis. (ii) Muti-armed bandit and dueling bandit problem investigation. (iii) Efficiency of two-party political games including equilibria

investigation as well as their price of anarchy.

09/2011–08/2014 **Position:** Postdoctoral Research Fellow.

Research & Development Alternative Military Service (研發替代役).

Institution: Genomics Research Center, Academia Sinica.

Location: Taipei, Taiwan.

Description: On comparative and evolutionary genomics of primates and crop plants. Investigation of direction and magnitude of natural selection on alternative splicing events.

Education

09/2004-07/2011	Ph.D. degree in Computer Science and Information Engineering, National Chung
	Cheng University, Chia-Yi, Taiwan.
	Supervisors: Maw-Shang Chang & Peter Rossmanith
09/2002-06/2004	M.S. degree in Computer Science and Information Engineering, National Chi Nan University, Nantou, Taiwan. Supervisor: Richard Chia-Tung Lee (R. C. T. Lee)
09/1998-06/2002	B.S. degree in <i>Mathematics</i> , National Cheng Kung University, Tainan, Taiwan.

Research Interests

• Data Science

• Algorithmic Game Theory

- Online Learning
- Quantitative Finance
- ullet Randomized Algorithms
- Bioinformatics

Scholarship & Awards & Projects (計畫與獲獎)

08/2023-07/2026	A Study on Group Competition Game of Real-Policy Making Based on Equilibria Existence and Gradient Algorithms (國科會計畫 NSTC ???-???-???-???-MY?).
04/2021-03/2023	Game Theoretical Aspects in Modeling and Analyzing Party Election Campaign (科技部計畫 MOST 110-2222-E-032-002-MY2).
09/2009-08/2010	Personnel Exchange Programme for Joint Project Between NSC & DFG (台德雙邊短期研究計畫; Taiwan: NSC 98-2911-I-194-003; Germany: RO 927/10-1 / 568846).
04/2009	Best Paper Award ; The 26th Workshop on Combinatorial Mathematics and Computation Theory. Chiayi, Taiwan, 24–25 April, 2009.
09/2007-08/2008	DAAD-NSC Sandwich Program (台德三明治計畫): Scholarship Holder. Institute to Visit: RWTH Aachen University, Germany.

Professional Services (研究服務)

03/2023 - 05/2023	Program Committee Member for the 40th Symposium on Combinatorial Mathe-
	matics and Computational Theory (CMCT 2023).
12/2022	Organizing Committee Member & Domestic Program Chair for the 27th
	International Conference on Technologies and Applications of Artificial Intelligence
	(TAAI 2022).
09/2021-present	Reviewer for Mathematical Reviews (MathSciNet, AMS).
12/2022	Program Committee Member of International Computer Symposium (ICS 2022).

Note: '*': the corresponding author.

• Journal Papers:

- Wendgoundi Abdoul Rasmané Savadogo, <u>Chuang-Chieh Lin</u>, Chih-Chieh Hung*, Chien-Chang Chen, Zhen Liu, Tingting Liu: A study on constructing an elderly abuse detection system by convolutional neural networks. *Journal of the Chinese Institute of Engineers* 46 (2023) 118–127.
- Chih-Chieh Hung, <u>Chuang-Chieh Lin</u>, Hsien-Chu Wu*, Chia-Wei Lin: A study on reversible data hiding technique based on three-dimensional prediction-error histogram modification and a multilayer perceptron. *Applied Sciences* 12 (2022) 2502.
- 3. <u>Chuang-Chieh Lin</u>*, Chi-Jen Lu, and Po-An Chen: How good is a two-party election game? *Theoretical Computer Science* 871 (2021) 79–93.
- 4. Trees-Juen Chuang*, Min-Yu Yang, <u>Chuang-Chieh Lin</u>, Ping-Hung Hsieh, and Li-Yuan Hung: Comparative genomics of grass EST libraries reveals previously uncharacterized splicing events in crop plants. BMC Plant Biology 15:39 (2015).
- Maw-Shang Chang, <u>Chuang-Chieh Lin</u>*, and Peter Rossmanith: Testing consistency of quartet topologies: a parameterized approach. *Information Processing Letters* 113 (2013) 852–857.
- Maw-Shang Chang, <u>Chuang-Chieh Lin</u>*, and Peter Rossmanith: A property tester for tree-likeness of quartet topologies. <u>Theory of Computing Systems</u> 49 (2011) 576–587.
- 7. Maw-Shang Chang, Hsiao-Han Chung, and <u>Chuang-Chieh Lin</u>*: An improved algorithm for the redblue hitting set problem with the consecutive ones property. *Information Processing Letters* 110 (2010) 845–848.
- 8. Maw-Shang Chang, <u>Chuang-Chieh Lin</u>*, and Peter Rossmanith: New fixed-parameter algorithms for the minimum quartet inconsistency problem. *Theory of Computing Systems* 47 (2010) 342–367.

• Refereed Conference Papers:

- Chi-Hao Wang, Chi-Jen Lu, Ming-Tat Ko, Po-An Chen*, <u>Chuang-Chieh Lin</u>*: Budget-Constrained Cost-Covering Job Assignment for a Total Contribution-Maximizing Platform. *In the Proceedings of the 34th International Workshop on Combinatorial Algorithms* (IWOCA 2023, Tainan, Taiwan, 7–10 June, 2023), pp. 392–403.
- 2. Po-An Chen*, Chi-Jen Lu, <u>Chuang-Chieh Lin</u>, and Ke-Wei Fu: Multiagent Learning for Competitive Opinion Optimization. In <u>Proceedings of the 2022 International Computer Symposium</u> (ICS 2022, Taoyuan, Taiwan; 15–17 December 2022), pp. 61–72.
- 3. Chuang-Chieh Lin and Chi-Jen Lu*: Efficient mechanisms for peer grading and dueling bandits. *Proceedings of the 10th Asian Conference on Machine Learning* (ACML 2018, Beijing, China; 14–16 November), pp. 740–755.
- Chuang-Chieh Lin*: Testing tree-consistency with k missing quartets. In Proceedings of the 28th Workshop on Combinatorial Mathematics and Computation Theory (CMCT 2011, Penghu, Taiwan, 27–28 May, 2011), pp. 280–285.
- 5. Maw-Shang Chang, Hsiao-Han Chung, and <u>Chuang-Chieh Lin</u>*: An improved algorithm for the redblue hitting set problem with the consecutive ones property. *Proceedings of the 26th Workshop on Combinatorial Mathematics and Computation Theory*, (CMCT 2009, Chiayi, Taiwan, 24–25 April, 2009), pp. 15–20. Best Paper Award.
- Maw-Shang Chang, <u>Chuang-Chieh Lin</u>*, and Peter Rossmanith: New fixed-parameter algorithms for the minimum quartet inconsistency problem. *Proceedings of International Workshop on Exact and Parameterized Computation* (IWPEC 2008, Victoria B.C., Canada; 14–16 May), pp. 66–77.

• Refereed Posters or Non-Archived Work:

- Po-An Chen*, Chi-Jen Lu, <u>Chuang-Chieh Lin</u>, Yu-Qin Lin: When and How to Have Negative Regrets for Online Learners? Profits for Prediction Market Makers as an Example. COMSOC'2023 Poster Session (3rd July 2023).
- 2. Bo-Hsin Lin, <u>Chuang-Chieh Lin</u>, Chih-Chieh Hung, and Chien-Chang Chen*: On the Identifiability of Artificial Financial Time Series Data (人造金融時間序列的可檢測性). *In Program of the 27th International Conference on Technologies and Applications of Artificial Intelligence* (TAAI 2022, Tainan, Taiwan; 1–3 December 2022).
- 3. Po-An Chen*, Yiling Chen, Chi-Jen Lu, and <u>Chuang-Chieh Lin</u>: Profitable prediction market making. Program of the 14th Annual Meeting of the Asian Association for Algorithms and Computation (AAAC 2021, Tainan, Taiwan; 22—24 October 2021).
- 4. <u>Chuang-Chieh Lin</u>, Chi-Jen Lu, Po-An Chen*: How good is a two-party election game? EC'20 Main Poster Session (S3W3).

• Ph.D. Dissertation:

- A Study on Fixed-Parameter Algorithms and Property Testing. July 2011.