CURRICULUM VITAE
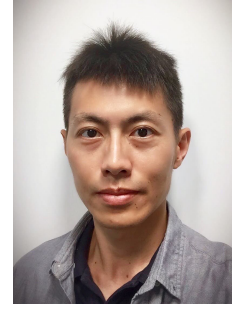
Contact Information

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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/Internship). **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) Peer-grading 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 *Mathematics*, National Cheng Kung University, Tainan, Taiwan.

Research Interests

- Data Science
- Algorithmic Game Theory
- Online Learning
- Quantitative Finance
- Randomized Algorithms
- Bioinformatics

Scholarship & Awards & Projects (計畫與獲獎)

01/2024–12/2025	**2024 NSTC-BFT ORCHID PROGRAM: Parameterized Online Learning for Min-Max Envy Resource Allocation and Team Formation** (台法幽蘭計畫之雙邊人員交流互訪型計畫; NSTC 113–2927–I–032–501).
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 112–2221–E–032–018–MY3).
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.
06/2023	**The 2023 ICPC Taiwan Private University Programming Contest: Bronze Award (Coach)** (全國私立大專校院程式競賽銅獎).

Professional Services (研究服務)

05/2023, 05/2024	**Program Committee Member** for *the 40th Symposium on Combinatorial Mathematics and Computational Theory* (CMCT 2023, 2024).
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).

Publication List

Note: '*': the corresponding author; '†': my student

- Journal Papers:

  1. Bo-Hsin Lin†, <u>Chuang-Chieh Lin</u>, Chih-Chieh Hung, and Chien-Chang Chen*: On the Identifiability of Artificial Financial Time Series. *Journal of Information Science and Engineering.* 40 (2024) 567–579.

  2. <u>Chuang-Chieh Lin</u>, Chih-Chieh Hung*, Chi-Jen Lu, and Po-An Chen: Group Formation by Group Joining and Opinion Updates via Multi-Agent Online Gradient Ascent. *IEEE Computational Intelligence Magazine* 18 (2023) 60–61.

  3. 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.

  4. 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.

  5. <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.

  6. 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).

  7. 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.

  8. Maw-Shang Chang, <u>Chuang-Chieh Lin</u>*, and Peter Rossmanith: A property tester for tree-likeness of quartet topologies. *Theory of Computing Systems* 49 (2011) 576–587.

  9. Maw-Shang Chang, Hsiao-Han Chung, and <u>Chuang-Chieh Lin</u>*: An improved algorithm for the red-blue hitting set problem with the consecutive ones property. *Information Processing Letters* 110 (2010) 845–848.

  10. 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:

  1. <u>Chuang-Chieh Lin</u>*, Chi-Jen Lu, Po-An Chen: Nash Equilibria of a Two-Party Policy Competition Game. Accepted *In Proceedings of the 41st Workshop on Combinatorial Mathematics and Computation Theory (CMCT 2024, Taipei City, Taiwan, 17–18 May, 2024).*

  2. *<u>Chuang-Chieh Lin</u>*, Chi-Jen Lu, and Po-An Chen: How Bad Can An Election Game of Two or More Parties Be?* In Proceedings of the 6th Games, Agents, and Incentives Workshop *(GAIW 2024, Auckland, New Zealand, 6–7 May 2024). Accepted for full presentation.*

  3. *Chih-Chieh Hung*, Hong-En Hsiao, <u>Chuang-Chieh Lin</u>, Hui-Huang Hsu: Air Pollution Source Tracing Framework: Leveraging Microsensors and Wind Analysis for Pollution Source Identification.* In Proceedings of the 28th International Conference on Technologies and Applications of Artificial Intelligence *(TAAI 2023, Yunlin, Taiwan; 1–2 December 2023). pp. 142–154. Excellent Paper Award.*

  4. *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* Proceedings of the 34th International Workshop on Combinatorial Algorithms *(IWOCA 2023, Tainan, Taiwan, 7–10 June, 2023), pp. 392–403.*

5. *Po-An Chen*, Chi-Jen Lu, Chuang-Chieh Lin, and Ke-Wei Fu: Multiagent Learning for Competitive Opinion Optimization.* In Proceedings of the 2022 International Computer Symposium *(ICS 2022, Taoyuan, Taiwan; 15–17 December 2022), pp. 61–72.*

6. *Chuang-Chieh Lin and Chi-Jen Lu*: Efficient mechanisms for peer grading and dueling bandits.* In Proceedings of the 10th Asian Conference on Machine Learning *(ACML 2018, Beijing, China; 14–16 November), pp. 740–755.*

7. *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.*

8. *Maw-Shang Chang, Hsiao-Han Chung, and Chuang-Chieh Lin*: An improved algorithm for the red-blue hitting set problem with the consecutive ones property.* In 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.*

9. *Maw-Shang Chang, Chuang-Chieh Lin*, and Peter Rossmanith: New fixed-parameter algorithms for the minimum quartet inconsistency problem.* In 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:

  1. Po-An Chen*, Chi-Jen Lu, Chuang-Chieh Lin, 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, Chuang-Chieh Lin, 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 Chuang-Chieh Lin: 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. Chuang-Chieh Lin, 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.