SIYUAN LIANG

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EDUCATION

The Chinese University of Hong Kong Aug 2022 - Present
Ph.D. in Computer Engineering (Expected in 2026) GPA: 3.64/4.0
Selected Honors/Awards:
- Postgraduate Studentship - Overseas Research Attachment Programme

Xi'an Jiaotong University Aug 2018 - Jul 2022
B.E. in Electrical Engineering (Elite Class) GPA: 3.78/4.3
Selected Honors/Awards:
- Honorary Graduate - Yuejie Academic Elite Scholarship (240,000 CNY, 2018-2022)
- Meritorious Winner of MCM-2020 (Mathematical Contest In Modeling)

EXPERIENCES

Technical University of Munich, Visiting Doctoral Candidate Aug 2024 - Feb 2025
Supervisor: Prof. Dr.-Ing. Ulf Schlichtmann, Project: Design automation tools for microfluidic biochips

Santa Clara University, Visiting Scholar Jun 2024 - Jul 2024
Supervisor: Prof. Ismail Emre Araci, Project: Demo fabrication of microfluidic biochips

Xi'an Action Electronics Co., Ltd, Assistant Software Engineer Jul 2021 - Aug 2021
Duties: Developing power control simulation software for PV arrays

Loten Semiconductor Co., Ltd, Assistant Hardware Engineer Jun 2019 - Aug 2019
Duties: Testing and calibrating samples, managing laboratory samples, arranging cargo delivery

PUBLICATIONS

[12] AutoRE: Bayesian-Optimization-based Automatic Reliability Enhancement Tool for Flow-based Microfluidic Biochips
S.Y. Liang, Y.S. Zhang, M.C. Li, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, The 62nd Design Automation Conference **(DAC)**, 2025.

[11] Deep-Reinforcement-Learning-Based Adaptive State-Feedback Control for Inter-Area Oscillation Damping with Continuous Eigenvalue Configurations
S.Y. Liang, L. Huo, W.Y. Qin, X. Chen, P.Y. Sun, CSEE Journal of Power and Energy Systems **(CSEE JPES)**, 2024.

[10] Combinatorial-Coding-Based High-Performance Microfluidic Control Multiplexer: Design, Synthesis, and Adaptation
S.Y. Liang, M.C. Li, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems **(TCAD)**, 2024.

[9] RABER: Reliability-Aware Bayesian-Optimization-based Control Layer Escape Routing for Flow-based Microfluidics
S.Y. Liang, R.L. Fu, M.C. Li, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, The 43rd ACM/IEEE International Conference on Computer-Aided Design **(ICCAD)**, 2024.

[8] Late Breaking Results: Efficient Built-in Self-Test for Microfluidic Large-Scale Integration (mLSI)
M.C. Li, H.C. Gu, Y.S. Zhang, **S.Y. Liang**, H. Gasvoda, R. Altay, I. Araci, T.-M. Tseng, T.-Y. Ho and U. Schlichtmann, The 61st Design Automation Conference **(DAC)**, 2024.

[7] LaMUX: Optimized Logic-Gate-Enabled High-Performance Microfluidic Multiplexer Design
S.Y. Liang, Y.S. Zhang, R. Altay, H. Gasvoda, M.C. Li, I.E. Araci, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, The 61st Design Automation Conference **(DAC)**, 2024.

[6] Rotor Angle Stability Prediction using Temporal and Topological Embedding Deep Neural Network Based on Grid-Informed Adjacency Matrix
P.Y. Sun, L. Huo, X. Chen, **S.Y. Liang**, Journal of Modern Power Systems and Clean Energy **(MPCE)**, 2023.

[5] ARMM: Adaptive Reliability Quantification Model of Microfluidic Designs and Its Graph-Transformer-Based Implementation
S.Y. Liang, M.Lian, M.C. Li, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, The 42nd IEEE/ACM International Conference on Computer-Aided Design **(ICCAD)**, 2023.

[4] Optimal Inter-area Oscillation Damping Control: A Transfer Deep Reinforcement Learning Approach with Switching Control Strategy
S.Y. Liang, L. Huo, X. Chen, P.Y. Sun, arXiv preprint arXiv:2301.09321, 2023.

[3] CoMUX: Combinatorial-Coding-Based High-Performance Microfluidic Control Multiplexer Design
S.Y. Liang, M.C. Li, T.-M. Tseng, U. Schlichtmann, T.-Y. Ho, The 41st IEEE/ACM International Conference on Computer-Aided Design **(ICCAD)**, 2022.

[2] Fast Transient Stability Prediction Using Grid-informed Temporal and Topological Embedding Deep Neural Network
P.Y. Sun, L. Huo, **S.Y. Liang**, X. Chen, arXiv preprint arXiv:2201.09245, 2022.

[1] Finite Element Analysis based Optimized Vehicle Mounted Antenna Deployment
S.Y. Liang, Y.S. Li, C. Gao, 2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting **(APS/URSI)**, 2021.

TEACHING

TA of ENGG 2440A Discrete Mathematics Sep 2022 - Dec 2022, Sep 2023 - Dec 2023
TA of ENGG 2780A Statistics for Engineers Jan 2023 - May 2023
TA of ENGG 1003 Digital Literacy and Computational Thinking Jan 2024 - May 2024

SERVICE AND LEADERSHIP

- Reviewer (ICCAD' 24, TCAD)
- More than 300 hours of social volunteer service
- CEO of Rhea Tech in technology entrepreneurship competitions during 2020-2022
- Monitor of class Electrical 81 (Elite Class) during 2018-2022