Richard Cornelius Suwandi

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Research Interests

Sample-efficient black-box optimization, probabilisitic modeling, open-ended discovery for science & engineering

Education

The Chinese University of Hong Kong, Shenzhen (CUHK-Shenzhen) *Sep 2023 – May 2027*
PhD in Computer and Information Engineering *(Expected)*
- **Supervisors**: Prof. Feng Yin & Prof. Tsung-Hui Chang (IEEE Fellow)

The Chinese University of Hong Kong, Shenzhen (CUHK-Shenzhen) *Sep 2019 – May 2023*
BSc in Statistics (Data Science Stream), First-Class Honours

Research Experience

Dria *Sep 2025 – Present*
Research Intern
- Conduct research on evolutionary coding agents for algorithm discovery and codebase optimization
- Helped developed Kai ↗, an evolutionary coding agent for automatically finding and patching software vulnerabilities, deployed as a VS Code extension

Bayesian Learning for Signal Processing (BLSP) Group *Jun 2021 – May 2023*
Undergraduate Research Assistant (Supervised by Prof. Feng Yin)
- Designed a novel grid spectral mixture kernel for GP with multidimensional input
- Developed two distributed algorithms for kernel learning in GP regression
- Presented a paper accepted at FUSION 2022

Shenzhen Research Institute of Big Data (SRIBD) *Jun 2021 – May 2023*
Undergraduate Research Assistant (Supervised by Prof. Tsung-Hui Chang)
- Investigated federated matrix factorization for data clustering and recommender systems
- Co-authored a paper and a poster accepted at IEEE ICASSP 2021

Publications

R. C. Suwandi, F. Yin, J. Wang, R. Li, T.-H. Chang, S. Theodoridis, **"Adaptive Kernel Design for Bayesian Optimization Is a Piece of CAKE with LLMs,"** *39th Conference on Neural Information Processing Systems (NeurIPS)*, 2025. Paper ↗ Code ↗ Poster ↗

R. C. Suwandi, Z. Lin, F. Yin, Z. Wang, S. Theodoridis, **"Sparsity-Aware Distributed Learning for Gaussian Processes with Linear Multiple Kernel,"** *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2025. Paper ↗ Code ↗

R. C. Suwandi, Z. Lin, Y. Sun, Z. Wang, L. Cheng, F. Yin, **"Gaussian Process Regression with Grid Spectral Mixture Kernel: Distributed Learning for Multidimensional Data,"** *25th International Conference on Information Fusion (FUSION)*, 2022. Paper ↗ Code ↗ Slides ↗

S. Wang, R. C. Suwandi, T.-H. Chang, **"Demystifying Model Averaging for Communication-Efficient Federated Matrix Factorization,"** *46th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021. Paper ↗ Poster ↗

Honors & Awards

2nd Prize Award, Doctoral Research and AI Conference, CUHK-Shenzhen | 2025
IEEE Signal Processing Society Scholarship | 2024, 2025

Guangdong Government Outstanding International Student Scholarship	2020, 2021, 2025
Shenzhen Universiade International Scholarship Foundation	2024
School of Science and Engineering Postgraduate Studentship, CUHK-Shenzhen	2023
Undergraduate Research Award, CUHK-Shenzhen	2022, 2023
School of Data Science Dean's List Award, CUHK-Shenzhen	2020, 2021, 2022, 2023
Full Tuition and Accommodation Scholarship, CUHK-Shenzhen	2019
Bronze Medal, Asia International Mathematical Olympiad (AIMO)	2018

Open-Source Contributions

- OpenEvolve ↗, open-source implementation of AlphaEvolve (LLM-powered evolutionary coding agent for algorithm discovery & optimization)
- PyCaret ↗, low-code machine learning library in Python for automating end-to-end ML workflows and experiments
- feature_engine ↗, feature engineering library with scikit-learn-style APIs for production ML pipelines
- pymoo ↗, Python framework for multi-objective optimization, including evolutionary and surrogate-based algorithms

Teaching Experience

Lead Teaching Assistant, CIE6007 Machine Learning, CUHK-Shenzhen	Fall 2025
Lead Teaching Assistant, MAT2040 Linear Algebra, CUHK-Shenzhen	Spring 2025
Teaching Assistant, CIE6007 Machine Learning, CUHK-Shenzhen	Fall 2024
Teaching Assistant, MAT2040 Linear Algebra, CUHK-Shenzhen	Spring 2024
Teaching Assistant, MAT2040 Linear Algebra, CUHK-Shenzhen	Fall 2023

Organizational Experience

Co-organizer, AI4Science Community, alphaXiv	2025 – Present
Student Ambassador, CUHK-Shenzhen	2024 – Present
Graduate Student Member, IEEE	2024 – Present
Member, IEEE Young Professionals	2024 – Present
Member, IEEE Signal Processing Society	2024 – Present
Member, IEEE Student Branch, CUHK-Shenzhen	2023 – Present

Services

Journal Reviewer, IEEE Transactions on Signal Processing (TSP)

Journal Reviewer, IEEE Transactions on Neural Networks and Learning Systems (TNNLS)

Conference Reviewer, Neural Information Processing Systems (NeurIPS)

Conference Reviewer, International Conference on Machine Learning (ICML)

Conference Reviewer, International Conference on Learning Representations (ICLR)

Conference Reviewer, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)