MINGDONG LI

My Homepage: mingdong-li.github.io

The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong

+852 62059030   +86 15221361908   Email: mlidr@connect.ust.hk

EDUCATION

The Hong Kong University of Science and Technology   *Sep. 2021 - Apr. 2025 (expected)*
PhD in Individualized Interdisciplinary Program (Robotics and Autonomous System)
Academy of Interdisciplinary Studies
Computational Cognitive Engineering Lab
Supervisor: Prof. Yiwen WANG, Prof. Qifeng CHEN (co-supervision)

Zhejiang University   *2018-2021*
Master of Mechanical Engineering
The State Key Lab of Fluid Power & Mechatronic Systems
Supervisor: Prof. Yixiong FENG

Tongji University   *2013-2018*
Bachelor of Mechanical Design Manufacture and its Automation
Pilot Sino-German Program for Undergraduate in Mechanical Engineering (Honor Class)

RESEARCH INTEREST

Brain-Machine Interfaces, Brain-inspired Intelligence, NeuroAI, Wearable Device, Product Design

WORKING PAPER

1. **Mingdong Li**, Shuhang Chen, Zhiwei Song, Xiang Zhang, Camilo Libedinsky, Rosa So, Yiwen Wang*. Assessing Modifications of Functional Neural Connectivity in Point Process Filter for Neuroprosthetic Control, ***IEEE Transactions on Biomedical Engineering***. *(to be submitted)*

2. Zhiwei Song, Xiang Zhang, **Mingdong Li**, Jieyuan Tan, Yiwen Wang*. An Online Knowledge Transfer Framework for Task Learning in Brain-Machine Interfaces, ***IEEE Transactions on Neural Systems and Rehabilitation Engineering***. *(to be submitted)*

3. **Mingdong Li**, Shuhang Chen†, Xiang Zhang, Yiwen Wang*. Neural Correlation Integrated Adaptive Point Process Filtering on Population Spike Trains, ***IEEE Transactions on Neural Systems and Rehabilitation Engineering***, 2024. *(under review, †: co-first author)*

PUBLICATION (JOURNAL)

1. **Mingdong Li**, Shanhe Lou*, Hao Zheng, Yixiong Feng, Yicong Gao, Siyuan Zeng, Jianrong Tan. A Cognitive Analysis-based Key Concepts Derivation Approach for Product Design, ***Expert Systems With Applications***, 2024.

2. **Mingdong Li**, Shanhe Lou*, Yicong Gao, Hao Zheng, Bingtao Hu, Jianrong Tan. A Cerebellar Operant Conditioning-inspired Constraint Satisfaction Approach for Product Design Concept Generation, ***International Journal of Production Research***, 2023.

3. Xuanyu Wu, Zhaoxi Hong*, Yixiong Feng, **Mingdong Li**, Shanhe Lou, Jianrong Tan. A Semantic Analysis-driven Customer Requirements Mining Method for Product Conceptual Design, ***Scientific Reports***, 2022.

4. Yixiong Feng, **Mingdong Li**, Shanhe Lou*, Yicong Gao, Jianrong Tan. A Digital Twin-Driven Method for Product Performance Evaluation Based on Intelligent Psycho-Physiological Analysis, ***Transaction of the ASME, Journal of Computing and Information Science in Engineering***, 2021.

PUBLICATION (CONFERENCE)

1. **Mingdong Li**, Jieyuan Tan, Zhiwei Song, Yiwen Wang*. Modeling Neural Population Dynamics in a Point Process Filter for Neuroprosthetics Control, ***Annual Conference of International Association of Neurorestoratology (IANR) 2024*** (Poster).

2. **Mingdong Li**, Mingyi Wang, Yiwen Wang*. An Adaptive Superposition Point Process Model with Neuronal Encoding Engagement Identification, ***2024 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC).*** IEEE, 2024.

3. Zixu Wang, Shuhang Chen†, **Mingdong Li**, Yiwen Wang*. Tracking Dynamic Conditional Neural Correlation during Task Learning, ***2024 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC).*** IEEE, 2024. *(accepted, †: co-first author))*

4. **Mingdong Li**, Shuhang Chen, Zhijia Zhao, Yiwen Wang*. Tracking the Dynamic Functional Neural Connectivity via Conjugate Gradient Optimization, ***2023 45th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC).*** IEEE, 2023.

5. **Mingdong Li**, Shuhang Chen, Xi Liu, Zhiwei Song, Yiwen Wang*. Modeling Neural Connectivity in a Point-Process Analogue of Kalman Filter, ***2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC).*** IEEE, 2022.

MENTORING AND TEACHING

Mentor for a summer intern and final-year project	*2024.07-2025.06*
Teaching Assistant, EMIA4110 Practical Machine Learning	*2024 Spring*
Teaching Assistant, ELEC4130 Machine Learning on Images	*2023 Spring*

ACTIVITIES

Lecturer Assistant, 4th International Workshop on Neural Engineering & Rehabilitation	*2023.08*
Poster Presenting, 3rd International Workshop on Neural Engineering & Rehabilitation	*2022.05*

PRIZES AND ACHIEVEMENTS

NextGen Scholar Award (issued by IEEE Annual International Conference of Engineering in Medicine and Biology Society (EMBC)	*2024.06*
Zhejiang University Graduation Scholarship (Top 1%)	*2021.03*
ZHEJIANG Lab AI Competition (Multiple Objects Tracking track), Excellence Prize	*2019.10*
1st prize in No.7 National College Mechanical Design Innovation Competition	*2016.07*
1st prize in Shanghai College Mechanical Innovation Competition	*2016.04*
Tongji Academic Scholarship, 2nd prize for 2 times and 3rd prize for 1 time	*2013-2018*