Qi Sun, M.S.

✉ cichengzi@hust.edu.cn   cichengzi
🌐 https://cichengzi.github.io/

Education

2022 – 2025   **M.S in Cyberspace Security, Huazhong University of Science & Technology**.
Thesis title: *Research on Knowledge Graph Construction Techniques for Information Security of Industrial Cyber-Physical Systems*.
GPA: 3.96/5.0   Score: 89.60/100.0

2018 – 2022   **B.S in Data Science & Big Data Technology, North University of China**.
Thesis title: *Research and Implementation of Remaining Life Prediction of Lithium-ion Battery Based on Deep Learning*.
GPA: 3.79/5.0   Score: 88.62/100.0

Projects

2020.11 – 2021.01   **Facial Recognition Attendance System Based on Siamese Networks**.

2021.11 – 2022.01   **Multi-dimensional Analysis of Tourism Cities and Attractions**.

2022.02 – 2022.05   **Remaining Life Prediction of Lithium-ion Battery Based On Seq2Seq Attention**.

2022.06 – 2022.09   **Unmanned Supermarket Simulation System**.

2022.10 – 2023.01   **Construction of Animation Knowledge Graph**.

2023.03 – 2023.05   **Question Answering System for Catalytic Cracking Process Anomalies Based on IKEQA Framework**.

2023.05 – 2023.10   **Root Cause Analysis of Anomalies in Catalytic Cracking Processes Based on Large Language Models**.

2023.07 – 2023.11   **Nested Named Entity Recognition of Industrial Processes**.

2023.07 – 2023.10   **Security Knowledge Graph Analysis Platform**.

2023.10 – 2024.01   **Lithium-ion Battery Capacity Estimation Based on Multi-task Autoencoder**.

2023.11 – 2024.02   **Anomaly Detection in the Reaction Regeneration System of Catalytic Cracking Processes**.

2024.03 – 2024.05   **Safety Verification of Advanced Driving Assistance Systems Using Hybrid Automaton Reachability**.

Projects (continued)

2024.04 – now   🔖 **Failure Analysis of Industrial Control System Protection Layers and Attack Pattern Recognition Based on Process Data Classification**.

2024.02 – now   🔖 **Anomaly diagnosis of catalytic cracking process based on knowledge graph and data-driven method**.

2024.05 – now   🔖 **Longitudinal Vehicle Motion Control Based on Deep Reinforcement Learning and Automata**.

Research Publications

Journal Articles

1   Z. Hu, **Q. Sun**, Y. Zhang, and C. Zhou, "Anomaly detection of reaction regeneration process in catalytic cracking unit based on ds2ae," *China Computer Engineering and Design (Under Review)*, vol. x, 2024.

2   Y. Li, **Q. Sun**, C. Zhou, Y. Tian, and L. Liu, "Nested named entity recognition based on the anchor span mechanism for manufacturing knowledge extraction," *(Under Revision)*, vol. x, 2024.

3   **Q. Sun**, F. Cui, and M. Shi, "Capacity estimation of lithium-ion battery with multi-task autoencoder and empirical mode decomposition," *Measurement (Under Review)*, vol. x, 2024.

Conference Proceedings

1   L. Liu, **Q. Sun**, L. Yang, Y. Li, and C. Zhou, "Safety verification of advanced driving assistance systems using hybrid automaton reachability," in *IEEE International Conference on Systems, Man, and Cybernetics (SMC) (Under Review)*, Sarawak, Malaysia, 2024, pp. x–x.

2   **Q. Sun**, Y. Li, Z. Hu, C. Zhou, and L. Liu, "Spatial-temporal dependency based multivariate time series anomaly detection for industrial processes," in *International Conference on Intelligent Computing (Under Review)*, Tianjin, China, 2024, pp. x–x.

3   **Q. Sun**, Y. Li, C. Zhou, and Y. Tian, "Root cause analysis for industrial process anomalies through the integration of knowledge graph and large language model," in *Chinese Control Conference*, Kunming, China, 2024, pp. 39–47.

Skills

Languages   🔖 CET4 534, CET6 463

Coding   🔖 Python, C, C++, SQL, Java, Html, JavaScript, R, Scala, Matlab · · ·

Databases   🔖 MySQL, MongoDB, Hive, SQLite, HBase.

Interests   🔖 Time Series Forecasting, Natural Language Processing, Deep Reinforcement Learning, Formal Analysis, Anomaly Detection, Big Data Analysis.

Miscellaneous Experience

Awards and Achievements

2019.10   🔖 **Bronze Prize**, International Collegiate Programming Contest, Yinchuan Station.

2020.12   🔖 **Bronze Prize**, International Collegiate Programming Contest, Nanjing Station.

2021.04   🔖 **First Prize of Individual & Group**, Group Programming Ladder Tournament.

2021.12   🔖 **Bronze Prize**, International Collegiate Programming Contest, Nanjing Station.

Certification

2021   🔖 **Certified Software Professional**. Awarded by China Computer Federation.
Score: 345   Rank: 2.19%.