

Shuao Guo

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Education

Institute of Scientific and Technical Information of China(ISTIC) Beijing, China Sep. 2021- Jan. 2024
Master of Management in Competitive Intelligence | [Link to all courses](#) **GPA: 88.02/100**
Relevant Courses: Text Analysis Processing and Applications, Knowledge Graph, Semantic Web Technology and Applications

Henan University of Technology(HAUT) Zhengzhou, Henan Province, China Sep. 2017- Jun. 2021
Bachelor of Engineering in Automation | [Link to all courses](#) **GPA: 2.65/5**
Relevant Courses: Automatic Control Theory, Intelligent Control, Computer Control Technology, Embedded System, Circuits Theory

Research Experience

Master Thesis: Machine Translation for Titles of Scientific Papers with Contextual Information Jun. 2022 - Oct. 2023

- Constructed a Russian-to-Chinese neural machine translation system based on Transformer for titles of Russian scientific papers.
- Developed the pivot-based word embedding generation method to improve the performance of Ru-to-Ch machine translation.
- Introduced the abstracts of the papers as context information into titles' machine translation system to improve its performance.
- Tools:** Python; Fairseq; Pytorch

ISTIC 2021 Key Project: Crosslingual Knowledge Discovery based on Full-text Scientific Literature Oct. 2021 - Jul. 2022

- Cleaned, extracted and indexed data of multilingual scientific patents and papers; performed Named Entity Recognition on data.
- Mined and identified associated knowledge structure; constructed a multi-dimension and multi-label analysis framework.
- Tools:** Python; Pandas; Matplotlib; Numpy

ISTIC 2023 Key Project: Construction of Intelligent intelligence Integration Innovation System Jul. 2023 - Present

- Developed an automatic extraction system based on LLM for extracting entities and entity relationships about research design (such as research task, method, metrics, material) from abstracts of papers in the AI field.
- Tools:** Python; Brat; Bloom

Selected Competitions and Projects

CCMT 2022: Thailand-to-Chinese Low-Resource Machine Translation Evaluation Task (ranked 1st) Apr. 2022 - Jul. 2022

- Constructed a Thai-to-Ch NMT system with only a few parallel corpus by specific data preprocessing steps and training tricks.

EvaHan 2023: Ancient Chinese Machine Translation Evaluation Task (ranked 3rd) May. 2023 - Jul. 2023

- Constructed an Ancient-to-Modern Chinese NMT system and an Ancient Chinese-to-English NMT system separately.

Bairong Inc. 2023 Xuanji Financial Quantitative Algorithm Competition (ranked 1st) Dec. 2023 - Dec. 2023

- Constructed a credit scoring model for bank users based on the provided data using the LightGBM (LGB) model.

CCL 2023: Telecom Network Fraud Case Classification Evaluation Task Jun. 2023 - Jun. 2023

- Constructed a fraud classification model based on Text-RCNN for chat content in telecom fraud calls.

CCMT2023: Chinese-Centric Multilingual Machine Translation Evaluation Task May. 2023 - Jul. 2023

- Constructed a multilingual neural machine translation system between Chinese and five languages of Southeast Asian countries.

Horizontal Project: Multilingual Automatic Translation of Scientific Documents Sep. 2022 - Jan. 2023

- Preprocessed scientific documents and conducted large-scale translations using existing machine translation systems.

Horizontal Project: Data Selection and Preprocessing in the Industrial Internet Field. May. 2023 - Jun. 2023

- Built an interface for querying similar data in industrial corpora based on bert vector similarity calculation.

Bachelor Thesis: Design of Control System of Flexible Joint Manipulator based on Observer Jun. 2020 - May. 2021

- Simulated a sliding mode variable structure control system for a flexible joint manipulator based on an observer using Simulink.

Publications

- Shuao Guo, et al. **ISTIC's Thai-to-Chinese Neural Machine Translation System for CCMT' 2022**. Machine Translation. CCMT 2022. Communications in Computer and Information Science, vol 1671. Springer, Singapore.
- Shuao Guo, et al. **ISTIC's Neural Machine Translation Systems for CCMT' 2023**. Machine Translation. CCMT 2023. Communications in Computer and Information Science, vol 1922. Springer, Singapore.
- Ningyuan Deng, Shuao Guo, et al. **Istic Neural Machine Translation System for EvaHan 2023**. In Proceedings of ALT2023: Ancient Language Translation Workshop, pages 34-42, Macau SAR, China. Asia-Pacific Association for Machine Translation.

Skills

Programming Languages: Python, C/C++, SQL, HTML, Bash, Matlab, CSS, Java