

Zihao Huang

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Education

University of British Columbia <i>Master of Data Science - Computational Linguistics</i>	Sep 2023 - Jun 2024 Vancouver, BC
Hong Kong Baptist University <i>Bachelor of Science in Computer Science</i>	Sep 2017 - Jun 2021 Hong Kong SAR

Experience

Software Engineer – Algorithm (Contributed Researcher) <i>Open Writing Evaluation, Paris</i> <ul style="list-style-type: none">Architected multilingual GEC framework with Chinese implementation achieving 98% character-level accuracy via ResNet-34 fine-tuning on 6,600+ glyphs; Designed extensible pipeline using language-agnostic error typology.Innovated cross-modal validation: Combined ResNet image embeddings (font/shape analysis) with LTP semantic vectors, reducing error propagation rate by 21% on handwritten dataset through hybrid similarity scoring.Engineered mobile-optimized pipeline with <0.1s latency via custom caching layer for Stanza NLP toolkit, enabling real-time correction in "Chinese Grammarly" prototype adopted by Vancouver educators.	Jul 2024 – Present Vancouver, BC
Data Engineer Intern <i>My Living City - Community Discussion Platform</i> <ul style="list-style-type: none">Engineered and deployed Meta's LLaMA3 - 8b using prompt engineering for auto-summarizing user comments, enhancing user interaction, and reducing redundancy. Integrated with PostgreSQL for efficient data handling.Built a Bag of Words and linear SVM classifier to detect offensive content quickly, improving response times by 60%. Developed a robust Flask API for real-time user interaction and containerized with Docker for easy deployment.	Apr 2024 – Jun 2024 Vancouver, BC
Research Assistant <i>Beijing Normal-Hong Kong Baptist University</i> <ul style="list-style-type: none">Directed and architected a revolutionary model combining Bi-LSTM, attention mechanisms, and quantum finance theories. Integrated a novel oscillator embedded into the time-series model, achieving a 9% improvement in predictive accuracy and a 22% increase in foreign exchange trading investment returns.	Jul 2021 – Jun 2022 Zhuhai, China

Projects

Oppositional Thinking Analysis - PAN at CLEF 2024 Challenge <ul style="list-style-type: none">Led development of a narrative classification model, evolving from RoBERTa + knowledge graphs to Gemma 2b, achieving 92% (EN) and 90% (ES) accuracy with LoRA/LoHA fine-tuning and prompt engineering.
Dialogues in Depth: A Comparative Analysis of 'Pride and Prejudice' <ul style="list-style-type: none">Built a corpus linguistics web app using Django, Elasticsearch, and Docker; improved retrieval speed by 40% and deployed on AWS for scalability.

Publications

Gu, Y., Huang, Z. , Zeng, M., Qiu, M., Park, J. (2025). <i>Improving Automatic Grammatical Error Annotation for Chinese Through Linguistically-Informed Error Typology</i> . In <i>Proceedings of COLING 2025</i> (pp. 2781–2798). ACL Anthology Link
Wang, J., Qiu, M., Huang, Z. , et al. (2025). <i>Refined Evaluation for End-to-End Grammatical Error Correction Using an Alignment-Based Approach</i> . In <i>Proceedings of COLING 2025</i> (pp. 774–785). ACL Anthology Link
Lee, J., Huang, Z. , Lin, L., Guo, Y., Lee, R. (2023). <i>Chaotic Bi-LSTM and Attention HLCO Predictor-Based Quantum Price Level Fuzzy Logic Trading System</i> . <i>Journal of Intelligent & Fuzzy Systems</i> , 27(5), 13405–13419. Springer Link

Technical Skills

Languages: Python, Java, C++, C, JavaScript, HTML, CSS, LaTeX, Markdown
Development: Vue.js, Django, React.js, Flask, jQuery, Bootstrap, Node.js, Kubernetes, AWS
Database/Big Data Engineering: MySQL, MongoDB, PostgreSQL, Machine Learning, Deep Learning, LLM
Software Tools: Docker, Linux/Unix, Nginx, Redis, Maven, Git, Cloud Computing