Jiaxin Zhang

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Summary

I am currently enrolled in a PhD program in Artificial Intelligence at the University of Strathclyde, my research focuses on advancing AI's numerical reasoning through both text-based and multi-modal learning methodologies. I have strong foundation in NLP and deep learning principles including Large Language Models, and 5 years experience in Python and relevant frameworks such as PyTorch and Hugging Face. Before starting on my PhD journey, I gained two years of practical experience as a Natural Language Processing Engineer, where I refined my skills in deploying machine learning solutions in real-world settings. My strong communication abilities enhance my effectiveness in managing large-scale projects and working collaboratively. I am also committed to being a team player, skilled at engaging with colleagues from diverse professional backgrounds.

Education

University of Strathclyde   **Oct 2020 – May 2024 (Estimated)**
PhD in Natural Language Processing   *Glasgow, UK*
- Thesis: Automated Mathematical Reasoning in Artificial Intelligence over Textual and Multi-Modal Data
- Advisor: Prof. Yashar Moshfeghi
- Scholarship: Fully funded by " Strathclyde Centre for Doctoral Training (SCDT) Research Studentship "
- Research Interests: automated solving math word problems, automated solving geometry math problems, LLMs for math reasoning tasks

University of Sheffield   **Seq 2017 – Oct 2018**
MSc in Advanced Computer Science   *Sheffield, UK*
- MSc Thesis: Natural Langauge Generation with Different Styles (graded with Distinction)
- Advisor: Prof. Andreas Vlachos

Chang'an University   **Seq 2011 – Jul 2015**
BSc in Network Engineering, Computer Science   *Xi'an, China*
- Chang'an University is part of the Double First Class University Plan and Project 211 of China

Publications

Please also check my Google Scholar page. The first author is highlighted by *.
Accepted Papers

1. Jiaxin Zhang[*], Yashar Moshfeghi. **ELASTIC: Numerical Reasoning with Adaptive Symbolic Compiler**. Accepted for Advances in Neural Information Processing Systems 35 (NeurIPS 2022).

2. Jiaxin Zhang. **A Combination of Lexicon-Based and Classified-Based methods for Sentiment Classification based on Bert**. Accepted in Journal of Physics: Conference Series (2021).

Work Experience

University of Strathclyde, UK | *Teaching Assistant*   **Feb 2022 – Apr 2024**
- Conducted laboratory tutorials to demonstrate coding techniques to students.
- Addressed student inquiries related to course content and assignments.
- Headed the Teaching Assistant team in grading exams and assignments.

TCL Technology, China | *NLP Researcher*   **May 2019 – Sep 2020**
- Conducted data cleaning and processing for training deep learning models.
- Used TensorFlow to develop a ChatBot utilizing the Seq2Seq architecture.
- Added a retrieve system before neural model. Utilized pattern matching in the rule-based component, employing algorithms like trie-tree and bk-tree for aligning responses to user inputs.
- Employed a pre-trained BERT model in the neural network aspect to transform sentences into embeddings, using cosine similarity for retrieving the most closely matching responses to user inputs.
- Drafted guidelines for interns to annotate data sets effectively, facilitating the efficient training of the ChatBot.

Ping An of China, China | *NLP Engineer Intern*   **Mar 2019 – Apr 2019**

- Collaborated with a team to establish guidelines and played a key role in building a model to automate the approval process of insurance provisions, significantly reducing the workload and effort required from human evaluators.
- Engaged in extensive text processing to extract vital information, such as numerical data, enabling detailed and routine checks for accuracy.

Beyes Data Intelligence Technology Service, China | *NLP Engineer*   **Oct 2018 – Dec 2018**
- Responsible for building a classification model to categorize the objectives of various stores within a designated business district based on an analysis of structured information, including business scope, founding members, location, sales figures, and other relevant details.

Professional Service

3nd MATH-AI Workshop at NeurIPS'23 | *Reviewer*   **Oct 2023**
- Be invited to serve as a reviewer for paper submissions to the 3rd MATH-AI Workshop at NeurIPS 2023.

Skills

Languages: Python, SQL, HTML, CSS, SQL
Deep Learning Framework: Pytorch, Transformers, scikit-learn, pytorch-lightning
Analysis and Visualization: numpy, pandas, matplotlib, TikZ
Tools: git, bash, vim
Languages: Chinese (native), English (proficient)