Shisen Yue

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EDUCATION

Shanghai Jiao Tong University Shanghai, China
Bachelor of Arts in Linguistics; GPA: 3.78 (88.5/100) *Sept. 2020 – June 2024*
Scholarship: Academic Excellence Award

Ohio State University Remote
Visiting Scholar supervised by William Schuler *April 2023 – Present*

PUBLICATIONS

[1] Yikang Liu, Ziyin Zhang.[†], Wanyang Zhang[†], **Shisen Yue**[†], Xiaojing Zhao[†], Xinyuan Cheng, Yiwen Zhang, Hai Hu (2023). ArguGPT: evaluating, understanding and identifying argumentative essays generated by GPT models. *arXiv preprint*

[2] Yixin Wang, **Shisen Yue**, Yanyi Zhong (2021). Understanding differences between human language processing and natural language processing by the synchronized model. *International Conference on Education, Language and Art (ICELA 2021)* (pp. 287-294). Atlantis Press.

RESEARCH EXPERIENCE

Exploring Sentence Comprehension with an Algorithmic-level Model
Ohio State University, Columbus, OH *April 2023 - Present*
- **Corpora Processing**: Annotated the eye-tracking corpora geco and provo with modelblocks.
- **Regression Experiments**: Performed prediction on the regression between participants' fixation on filler-gap words and their linguistic features to explore the cognitive processing of filler-gap words.
- **Code Contribution**: Made commitments to the software code and enhanced its stability.

Examining Identifiability of AIGC with SVM
Shanghai Jiao Tong University, Shanghai *Feb. 2023 - July 2023*
- **Linguistic Analysis**: Counted the occurrences of various linguistic features in human-written essays and AI-generated content with translationese, visualized them with violin plots and found distinguishable items.
- **Classification Task**: Trained SVM classifiers with statistics on linguistic features to detect AI-generated essays and attained a best accuracy of 95.14% in the detector trained with function words' occurrences.
- **Collaborative Research**: Co-authored an academic paper[1] on the project with teammates, elaborated content in terms of the research method, background knowledge and implications with ample references.

Comparative Analysis of Reinforcement Learning Algorithms
Shanghai Jiao Tong University, Shanghai, [Github] *Feb. 2023 - June 2023*
- **Algorithm Implementation**: Implemented DQN, Dueling-DDQN, DDPG, and TD3 algorithms to examine and compare the traits of value-based and policy-based reinforcement learning algorithms.
- **Evaluation and Comparison**: Evaluated algorithm performance and effectiveness using Atari game environments and Mujoco simulated control tasks, and made comprehensive analysis based on the results.
- **Algorithm Optimization**: Increased the agents' score by 10.26% by careful modification on coding and hyperparameter setting, such as epsilon decay, gradient clipping and weight initialization.

Perception of Event Boundaries Among Chinese Speaking Young Adult
Shanghai Jiao Tong University, Shanghai, grade A (Top 15%) *Sept. 2022 - Feb. 2023*
- **Experimental Design**: Designed video segmentation task to investigate the perception of event boundaries among Chinese speaking people. Controlled irrelevant variables and formulated the list of continuous actions.
- **Material Preparation**: Prepared the video material by acting and processing the continuous actions.
- **Production Coding and Data Analysis**: Preprocessed the data with Pandas library and conducted statistical significance analysis with SPSS 25.0, and explained the results with ample theoretical support.

- **Evaluating Intelligent Chatting Applications from Linguistic Perspective**
  Shanghai Jiao Tong University, Shanghai   *Aug. 2021 - Dec. 2021*
  - ○ **Experimental Design**: Formulated the research plan and designed questions that trigger the chatbot's response to evaluate its understanding of the given context in semantic, syntactic and pragmatic aspects.
  - ○ **Linguistic Analysis**: Conducted comprehensive linguistic analysis on the generated content, examining aspects such as grammaticality, topic relevance and implicature inference with a synchronized model[2].

EXTRACURRICULAR ACTIVITIES

- **Head of Contact Center, School Students Union**
  Shanghai Jiao Tong University   *Sept. 2021 - April 2022*
  - ○ Responsible for fundraising for large events held by the student union, liaising with business leaders.
  - ○ Coordinated with student unions of other colleges to organize large-scale inter-college activities.

SKILLS

- **Programming**: Python, C++, LaTeX, SPSS
- **Tools**: Nltk, Linux Shell, Git, OpenAI Gym, Pandas, Numpy, scikit-learn
- **Language Skills**: English (proficient), Spanish (DELE B1), Japanese (intermediate), Mandarin (native)
- **Standardized tests**: TOEFL 106 (L27 S23 R30 W26), GRE 327 (V157 Q170)

RELEVANT COURSEWORK

- **Linguistics**: *Syntax (97/100), Semantics (91/100), Language and Cognition(93/100), Language Data and Python Techniques (92/100), English Academic Thesis Writing (93/100), Phonetics and Phonology (90/100), Speech Pathology (A), Language Acquisition (A)*

- **Computer Science**: *Algorithm (97/100), Reinforcement Learning (95/100), Thinking and Approach of Programming (92/100), Data Structure (A), Probability and Statistics (97/100), Machine Learning (A), Intro to Machine Learning, C++ Programming (A)*