

Yiming Su
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EDUCATION

The University of Chicago, Chicago, IL
Bachelor of Science, in Computer Science, 2024

AWARDS AND HONORS

University of Chicago Metcalf Grants, March 2022, June 2022
Dean's List, 2021-2022
University of Chicago Odyssey Scholarship, 2020-2024

RESEARCH EXPERIENCE

Prof. Shan Lu's Group, University of Chicago, Chicago, IL
Undergraduate Researcher, March 2022 – Present

- Developed a research proposal for a general code specification violation checking procedure by using CodeQL to perform static analysis with machine-readable code specification synthesized by prompting GPT-3 with formatted human-language code comments
- Designed experiment to (1) investigate the impacts of human-language prompt on the synthesis accuracy and syntactic validity of code produced GPT-3 and (2) investigate GPT-3's potential to conduct syntax analysis on synthesized output
- Designed a pipeline of code specification violation tests which takes code comments as input and automatically queries the target software of violation tests with synthesized code from GPT-3

The MiiE Lab, University of Chicago, Chicago, IL

Undergraduate Machine Learning Researcher, March 2022 – Present

- Engineered an image captioning process on children's books by fine-tuning a CNN/RNN-LSTM model on custom datasets to investigate the representations of different age, skin color, and race groups in children's books.
- Developed and fine-tuned a pre-trained VGG-like model to recognize 7 types of emotions in children's book
- Conducted data quality assessment on previous dataset to improve various machine learning results

PRESENTATION

Impact of Prompts on Synthesis Accuracy and Syntactic Validity of GPT-3 in Human-Language-Prompted Code Synthesis Tasks
Supervised by Prof. Shan Lu, University of Chicago, 2022

REFERENCES

Shan Lu, Professor, Department of Computer Science, University of Chicago, 773-702-3184
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Teodora Szasz, Computational Scientist, Research Computing Center, University of Chicago
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