YUSHU HE

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SUMMARY

Yushu (Oliver) He (he/him) is a junior student majoring Computer Science and Engineering at University of Michigan. His research interest includes computer systems and artificial intelligence. He plans to pursue PhD. degree in the future.

EDUCATION

University of Michigan - Ann Arbor 2023 - Now
Major: BSE, Computer Science and Engineering GPA: 3.9
Minor: Mathematics
Selected Coursework:
EECS 281 (A), EECS 370 (A), MATH 465 (A)
Currently Taking:
EECS 481, EECS 482, EECS 485

Shanghai Jiao Tong University 2021 - 2023
Major: BSE, Electric and Computer Engineering GPA: 3.7
Minor: Data Science

SKILLS

Programming Languages and Frameworks
C/C++, Rust, Python, Go, Docker, Linux, HTML, JavaScript, Matlab, Mathematica

RESEARCH

Automated Photo Captioning for UM's Online Presence, Don Lambert Winter 2024
Developed an API using Azure machine learning services for automatically generating image captions, enhancing UM's online content accessibility and engagement. (Python, Azure)

- Conducted a literature review on photo recognition and captioning technology, focusing on accessibility best practices.
- Built and documented an API using Azure, enabling integration with various front-end tools (Adobe InDesign, Drupal/WordPress, Google Chrome plugins).
- Developed prototypes for front-end systems to utilize the API, improving the quality and accessibility of photo captions across UM's digital platforms.
- Gained experience in machine learning, API development, and front-end programming, with a focus on accessibility design and best practices.

Exploring AGI through Hardcoding and Knowledge Bases, IPP SJTU Spring 2022
Investigated the feasibility of achieving Artificial General Intelligence (AGI) by leveraging hardcoding techniques and extensive knowledge bases. Developed interactive demos, including Go and Gomoku, to test theories. (C#)

- Conducted comprehensive research on hardcoding and knowledge bases as foundational elements for AGI.
- Developed and refined algorithms for board games as practical applications of theoretical concepts.
- Explored the integration of machine learning techniques with hardcoded logic and knowledge bases to enhance AGI models.
- Gained insights into the challenges and potential breakthroughs in AGI, fostering a deeper understanding of artificial intelligence's future landscape.

PROJECTS

Prediction Model For House Price, Prof. Ailin Zhang Summer 2023

Analyzed and explored data with visualization and built a powerful model to predict the house price. (Python)

- Gained hand-on experience with performing EDA for Data (Pandas, Data Visualization)
- Learned how to process text data and convert it to numeric form (Regular Expression, Word Embedding)
- Explored a variety of models in Machine Learning (scikit-learn)

Deploy ChatGPT-Next-Web Winter 2023

Deploy Web application with open source project ChatGPT-Next-Web and get experience with the usage of OpenAI API. (HTML, CSS, JavaScript)

- Understanding the nature of API request and response.
- Experience with how to write high quality prompt.

Deploy and Maintain Own Server Fall 2022

Deploy and maintain a personal server on a Raspberry Pi 4. Successfully installed and configured OpenMediaVault for network-attached storage management. Utilized Docker to deploy NextCloud, providing a personal cloud storage solution. Hosted my own blog.

- Linux system administration and network management.
- Docker for application deployment and containerization.
- Data management, security, and providing secure cloud storage
- Enhanced understanding of server setup, maintenance, and the practical application of open-source tools for personal data management and security.
- Gained basic knowledge of CDN (with CloudFlare) and DNS.

ACTIVITIES

UM-SJTU Joint Institute Alumni Fall 2023

Join the UM-SJTU Joint Institute Alumni for activity organization and media support.

Third prize in Shanghai Jiao Tong University Intramural Competition, 2021 China College Students Engineering Practice Innovation Ability Competition Fall 2021

The small intelligent logistics car uses Raspberry PI to do advanced tasks such as color recognition, and Arduino to control the underlying motion. The two communicate through GPIO interface. Complete the loading of the specific color cargo to the specified location and put it down.

Maintain My Own Blog Fall 2022 - Now

My own blog content is mainly about my life and technology tutorial & recording of my practice/view on technology.

AWARDS AND SCHOLARSHIPS

Honorable Mention , MCM/ICM *April 2023*

The Fuda Scholarship , UM-SJTU Joint Institution *Oct. 2022*

The Fuda Bearing Group established the Fuda Scholarship. The scholarship is awarded based on academic performance and financial needs.

Undergraduate Class B Excellence Scholarship , Shanghai Jiao Tong University *2022-2023*