Siyuan Li (黎思源)

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Projects Website: https://github.com/liaoyanqing666 | Personal Website: https://siyuanli.tech/

EDUCATION

Shanghai University 09/2021-06/2025
B.E. in Artificial Intelligence GPA: 3.82/4.0 (93.94/100), Ranking: 1/52
Key courses: Calculus(94), Linear Algebra(100), Object Oriented Programs(94), Probability and Statistics(95), Data Structure(97), Pattern Recognition(90), Computer Vision(91), Operations and Optimization(88), Data Mining and Knowledge Processing(94), Mathematical Logic(95), Principles and Techniques of Large Language Models(95), Principle and Algorithm of Artificial Intelligence(93)

RESEARCH & INTERNSHIP

Research in SHU Brain-like Computing Center Lab | **AI for Recognizing Preference** | Leader 04/2024-09/2024
Advisor: Prof. Huiran Zhang (Shanghai University)

- Proposed a novel ERP composite formula for analyzing human preferences.
- Achieved effective classification of preferences using AI methods combined with the developed formula.
- Authored a manuscript as the first author titled "Brain Responses to Preferences: Insights from ERP Components and Emotional Processing" which is prepared for submission.

Research Intern in Westlake University | **Rule Discovery in Physical Data/Video** | Leader 07/2023-06/2024
Advisor: Prof. Tailin Wu (Westlake University), Prof. Sebastian Musslick (Brown University)

- Developed a transformer-based model and programed to experiment with symbolic regression tasks.
- Modeled and transferred symbolic regression tasks to the domain of videos.
- Explored the discovery of physical system patterns from videos to empower scientific discovery tasks.

Research in Shanghai University | **Video Frame Interpolation with PVT** | Leader 04/2023-06/2023
Advisor: Prof. Hang Yu (Shanghai University)

- Reviewed relevant literature according to task requirements and established a PVT-based encoder U-net model.
- Wrote code and conducted experiments, achieving state-of-the-art results in terms of SSIM performance.

PROJECTS

All project repositories: **https://github.com/liaoyanqing666**

Cross-Modal Pretrained Model Alignment 07/2024

- Proposed and implemented a method to quickly align pre-trained models from different modalities.
- Designed a twin neural network similarity module to align pretrained models with varying embedding dimensions.
- Achieved rapid model alignment between text and image modalities with minimal training on a standard image classification dataset, rather than requiring a large "image-description" dataset typical for models like CLIP.
- Experimentally demonstrated the project's ability to align quickly with minimal GPU requirements and satisfactory performance.

Reproduction and Experimentation of Paper of TextCNN 03/2023

- Reproduced and experimented with the TextCNN model.
- Performed tokenization and encoding of sentence content, followed by padding or truncating sentence lengths.
- Implemented word embedding and utilized multiple convolutional kernels of varying sizes for feature extraction, pooling, and final classification through fully connected layers.

Force Video Classification Based on CNN-LSTM 02/2023

- Developed a network model based on CNN for video frame feature extraction and LSTM for sequential frame feature computation.
- Implemented classification using KNN or ANN and trained the model through experiments.

Handwriting Recognition System Based on Siamese Neural Networks 11/2022

- Independently designed and coded a system utilizing VGG16 for signature feature extraction.
- Achieved 100% accuracy on the CEDAR dataset using Siamese neural networks for classification.
- Developed frontend-backend interaction programs enabling the utilization of training results on web platforms.

PAPERS

Brain Responses to Preferences: Insights from ERP Components and Emotional Processing. (In preparation for submission)

Yuhang Guo, **Siyuan Li (Co-first author)**, Jinxuan Wu. (2023). Research advanced in offline handwritten signature verification. Applied and Computational Engineering, 6(1), 1244-1252. DOI: 10.54254/2755-2721/6/20230653.

AWARDS

ICPC (International Collegiate Programming Contest) Asia Regional Contest (Hefei) **Bronze Medal**	11/2023
ICPC (International Collegiate Programming Contest) Asia Regional Contest (Nanjing) **Bronze Medal**	11/2022
ASC Student Supercomputer Challenge **National Second Prize**	02/2024
Group A of C/C++ Division of Blue Bridge Programming Cup **National Third Prize**	06/2023
Group A of C/C++ Division in Shanghai Division of Blue Bridge Programming Cup **First Prize**	04/2023
CCPC (China Collegiate Programming Contest) Shanghai Programming Contest **Silver Medal**	10/2022

SKILLS & QUALIFICATIONS

Programming language: Python (Advanced), C++ (Proficient), Matlab (Familiar)

Software: Git&Github, Office Word, LATEX, Markdown, Remote SSH of VSCode

AI-related skills: Pytorch (Advanced), Transformers (Proficient Understanding), LLM (General Understanding)

SCHOLARSHIP & HONORS

First-class Academic Scholarship	11/2023&11/2022
Leadership Scholarship	11/2023&11/2022
Innovation Scholarship	11/2023&11/2022
Loving Heart Volunteer Scholarship	11/2023&11/2022
Outstanding Student of Shanghai University	11/2023&11/2022
Top 100 Outstanding Students of Shanghai University	05/2023

EXTRACURRICULAR & VOLUNTEER ACTIVITIES

New Media Center, School of Computer Engineering and Science | Chairman 01/2022-01/2023

- Managed content publication on the School of Management's official WeChat account and coordinated daily tasks.
- Organized and managed recruitment presentations, student representative meetings, and other related affairs.

ByteDance | Campus Ambassador 03/2022-06/2022

- Assisted Bytedance company in promoting spring recruitment and summer internship, distributing local push manual and internal push code.

Volunteer time: 100h+