# Siyuan Li (黎思源)

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## EDUCATION

**Shanghai University** 09/2021-06/2025
B.E. in Artificial Intelligence GPA: 3.82/4.0 (93.94/100), Ranking: 1/52

## 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+**