

# Yulin Song

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## EDUCATION

### New York University

*M.S. in Computer Science*

New York, NY

09/2023 – 05/2025(Expected)

### Fudan University

*B.S. in Computer Science and Technology*

Shanghai, China

09/2019 – 06/2023

Honor: Third Prize of the Scholarship for Outstanding Graduates at Fudan University (Top 25%)

## SKILLS

- **Programming Languages:** Java, Python, C/C++, JavaScript, Golang
- **Framework:** Spring Boot, ReactJS, Django, Flask, Gin, PyTorch, HuggingFace Tools & Models, Gradio, DeepSpeed
- **Tools & Platforms:** Git, Shell, Postman, Docker, Linux, PostgreSQL, MySQL, Elasticsearch, Faiss

## EXPERIENCES

### LLM Application Developer Intern | Fudan University

12/2022 – 05/2023

**Project:** Fact-checking Platform for Complex Claims Based on Large Language Models(LLM) | [GitHub](#)

- Innovatively researched the utilization of LLMs for complex fact-checking task by leveraging **Chain-of-Thought** prompt design and In-Context Learning techniques. Employed **multi-round dialogues** and **recurrent self-reflection** to construct a concise and efficient **full-stack fact-checking platform** based on a single LLM using **Python** and **Gradio** framework
- Achieved **state-of-the-art** performance on multi-hop datasets, outperforming leading baseline model FlanT5-large by **4%** while enjoying advantages such as excellent interpretability, strong robustness, and low deployment cost
- Conducted rigorous analysis on the impact of different prompt designs, articulating the underlying rationale behind them

### NLP Research and Development Intern | University of Maryland, College Park

06/2022 - 10/2022

**Mentor:** Prof. Jordan Boyd-Graber, CLIP Laboratory, University of Maryland, College Park

- Proposed innovative approaches leveraging perplexity, knowledge and reasoning capabilities of **Pre-trained LMs** after comprehensive analysis of timeliness and limits in existing methods to improve timeliness identification in datasets
- Created a **Faiss**-indexed database with timestamps by writing **Python** and **Shell** scripts to concurrently clean and process over 13 years of Wikipedia data (400GB+); utilized **Bert** encoders for encoding and fine-tuned **RAG** generator for retrieval
- Developed a retrieval-augmented system in **Python** with **HuggingFace** framework to identify the timeliness of questions in knowledge-intensive QA datasets, which outperformed existing leading models by **17% in precision**, while maintaining a high rate of recall and offering unparalleled interpretability

### NLP Research Assistant | Knowledge Works Research Laboratory

07/2021 – 06/2023

**Mentor:** Prof. Yanghua Xiao, Fudan University

Engaged in two research projects and was responsible for method implementation and conducting experiments, including:

- Employed **DeepSpeed** and **Huggingface** frameworks for training large-scale language models, notably FlanT5-xl
- Conducted in-depth research into the capabilities of LLMs for **step-by-step** complex factual reasoning and verification
- Designed and implemented key multi-step decoding algorithms and a trie-tree for iterative decoding in **Python**

## PROJECTS

### Full-Stack Project: Smooth | Django, ReactJS, AWS, SQLite, Elastic Beanstalk, Zenhub, Postman

09/2023 – Present

- Developed a workflow visualization and sharing app using **ReactJS** and **Django**, interacting with a **SQLite** database
- Applied **Scrum** methodology in development; Utilized **Zenhub** for project management and **Postman** for testing
- Implemented **RESTful** APIs for user registration and management, canvas manipulation and discussion management
- Created user-friendly front-end with **React-flow**, allowing intuitive nodes and dependency creation by dragging
- Deployed the application to **AWS** using **Elastic Beanstalk**, ensuring scalable and efficient application performance.

### Full-Stack Project: ODAP | ReactJS, Spring Boot, MySQL, Docker, Hibernate, Postman

04/2023 – 06/2023

- Developed an online data annotation platform using **ReactJS** and **Spring Boot** with **MySQL** database deployed in **Docker**
- Utilized **Spring Security** in registration, login, and user session management modules
- Implemented 30+ **RESTful** APIs for datasets upload, management, preview and annotation with progress tracking
- Designed database schemas with **MySQL** and interacted with the database using **Hibernate**. This platform was adopted by over 10 groups at Knowledge Works Research Lab and received acclaim for significantly enhancing efficiency

### Full-Stack Project: Pokemon Battle | Golang, Gin, PostgreSQL, Cocos Creator | [GitHub](#)

04/2021 - 06/2021

- Developed a Pokemon catching and battling game using **Gin** framework connected with a **PostgreSQL** database
- Implemented 20+ **RESTful** APIs handling user registration and login, user profile and Pokemon backpack management, multi-round Pokemon fight support, Pokemon catching and sharing functions
- Co-designed and implemented battle algorithms and game clients using the **Cocos Creator** game engine