

Shenzhe (Cho) Zhu

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EDUCATION

University of Toronto

Bachelor of Science in Computer Science

Toronto, Canada

Sept 2022 - Current

- Cumulative GPA: 3.97/4.0
- Honors&Awards: 2022-2023 Dean's List
- Relevant Coursework/Certificates: Linear Algebra, Multi-variable calculus, Introduction to Probability, Introduction to Linguistics I&II, Introduction to TensorFlow(Coursera), Finetuning LLMs(Coursera)

RESEARCH INTERESTS

- Neural-symbol systems focusing on the integration of structured knowledge and GNN
- Explainable AI
- Natural Language Processing
- Knowledge enhanced LMs

RESEARCH EXPERIENCE

Department of Computer Science, University of Toronto

Deep Learning Researcher, Advisor: Prof. Xujie Si

Toronto, Canada

Dec 2023 - Current

- Conducted review of **150+** papers on **neural-symbolic** systems and the interpretability of deep learning.
- Composed a survey paper titled "Exploring the Neural-Symbolic System from a Knowledge Graph Application Perspective", with completion expected by the end of April.
- Curated and annotated the Yale Face dataset for facial feature analysis, managed **GPU training** utilizing TensorFlow 2.0 and CUDA, and fine-tuned hyperparameters to optimize model performance.

WORK EXPERIENCE

University of Toronto Scarborough

Data Analyst Intern

Toronto, Canada

Jan 2024 - Current

- **Knowledge Graph-based job recommender system API project (Beginning Stage)**
 - Execute pattern matching on student resumes via **spaCy** for skill and discipline entities extraction and utilize prompt engineering with **LLama2** for retrieving job qualification entities.
 - Construct knowledge graph in **Neo4j Aura** to map job qualifications and job IDs with applying community detection and node similarity algorithms alongside known entities in resume to implement job matching.
 - Develop API logic using FastAPI, adhering to OpenAPI standards to ensure interface standardization and extensibility.
- **Weekly report data generation system reconstruction and code maintenance**
 - Analyzed **1000+** lines of Python data generation scripts to decode data manipulation, redesigned **SQL-based** operation logic with UML, and crafted **600+** lines of SQL queries in MySQL database, laying the basis for automated end-to-end report generation.
 - Maintained **5+** Python-based **ETL** reporting pipelines with Pandas and Numpy to provide underlying data for Tableau dashboards on student job searches and job postings.

Wuhan Tianyu Education Technology Co.

Machine Learning Engineer - Summer Trainee

Wuhan, China

Jun 2023 - Aug 2023

- Managed ML pipelines for product price datasets, achieving a **74.4%** prediction score with scikit-learn. Enhanced accuracy to **91%** using **Gradient Boost Regressor**, outperforming other models by **22%**.
- Managed project version control using Git Bash and GitHub, including clear documentation of experiment results in a README file for future maintenance and community accessibility.

COMPETITION

GenAI Genesis 2024 | InterView (Award for Best AI in Safety & Responsible) (Work Link)

Mar 2024

- Developed an smart interviewer assistant with **Gemini-Pro**, designing and optimizing the **Speech-to-Text** model using Node.js, and Constructing vector databases for **Retriever-Augmented Generation (RAG)** training in Gemini.

HacktheValley8 | QuickScan: Text-Scanner (Work Link)

Oct 2023

- Created a system with OpenCV for precise image segmentation, extracting handwritten text from photos. Enhanced recognition accuracy by implementing a CNN and LSTM based deep learning model.

SKILLS

Languages: Python, SQL, Java, C, Node.js, Cypher, Bash

Frameworks: Tensorflow, Keras, spaCy, Scikit-learn, XGBoost, Matplotlib, OpenCV, FastAPI

Cloud Tools: AWS, Google Cloud, Hugging Face, Firebase, Neo4j AuraDB

Development Tools: Git, MySQL, CUDA, OpenAPI, Tableau, PowerBI, Markdown, Latex, Github, Jupyter Notebook, Anaconda