Yoggy Zhang

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Professional Summary

Top-tier Machine Learning Engineer with a top 1% academic record (top 1/85 in undergraduate class). Proficient in Python (ML development) and C++ (software engineering), skilled at translating complex math into scalable solutions. Led a 20k+ fan technical community on CSDN, demonstrating strong communication and thought leadership.

Education

Master of Science | Data Science   *09/2025 – 06/2026*
University of Glasgow, Glasgow, United Kingdom

Bachelor of Science | Information And Computing Science   *09/2021 – 06/2025*
Heilongjiang Bayi Agricultural University, Heilongjiang, China

Experience

Undergraduate Researcher   *01/2025 to 06/2025*
Agricultural AI Research Lab | Heilongjiang, China

- Implemented high-precision image classification system for 102 flower species based on SWIN Transformer model, achieving 99% accuracy
- Supported batch image inference with visualization capabilities for result display and analysis
- Optimized small-sample recognition performance through transfer learning and data augmentation techniques
- Applied optimization strategies including SGD optimizer, cosine annealing learning rate scheduling, and Stochastic Depth (DropPath) regularization

Algorithm Engineer   *01/2024 to 03/2024*
Zhejiang Sunny Optoelectronics Software Development Co., Ltd. | Zhejiang, China

- Reproduced functions related to linear transformation in visual software using C++
- Utilized ClickHouse database for data cleaning and user behavior data analysis
- Classified data according to categories, achieving 98% accuracy requirement
- Implemented industrial QR code image recognition logic using YOLOv5, reaching 95% accuracy

Skills

- **Languages**: Python, C/C++ (C++11), MySQL, SQL, Redis, HTML/CSS, Java, MATLAB
- **Data Structures**: Linked List, Stack, Queue, Tree (Huffman, Binary Search, Red-Black, B & B+ Tree), Union-Find, Heap, Hash Table (including shrinking)
- **Algorithms**: Sort, Search, Two-Pointer, Dynamic Programming, Greedy, MST, Shortest Path
- **OS**: Linux, Processes & Threads, Process Synchronization, Process Communication, Page Replacement & Process Scheduling, I/O Multiplexing (select, poll, epoll, Reactor & Proactor models)
- **Networking**: TCP/UDP, HTTP/HTTPS, TLS/SSL, Encryption Algorithms
- **Libraries**: STL, PyTorch, Matplotlib, NumPy, Pandas, scikit-learn
- **Design Patterns**: Singleton, Factory, Observer
- **Tools**: Qt, Git, Vim, GDB, Google Cloud, Postman, VS Code, VS C++, PyCharm, IntelliJ IDEA

Projects

Text Summarization System | *BERT, Seq2Seq, Attention, PGN, Beam Search* 01/2025 – 03/2025
GitHub: IAmYoggy/Abstract

- Developed an automatic text summarization system to extract core semantics from automotive texts, generating concise summaries
- Implemented Seq2Seq model with attention mechanism as the main architecture to capture contextual dependencies
- Integrated Pointer-Generator Network (PGN) architecture to generate words present in source text but absent in vocabulary corpus; introduced coverage mechanism to track attention distribution and prevent repetitive word focus
- Enhanced decoding speed using Beam Search algorithm; employed semi-supervised learning methods for data augmentation and Scheduled Sampling to control teacher-forcing ratio, improving model generalization performance

Intelligent Medical Consultation System | *PyTorch, Flask, Redis, Neo4j* 10/2024 – 12/2024
GitHub: IAmYoggy/AIDoctor

- Built an online medical consultation system based on medical knowledge graph database to provide patients with corresponding disease analysis and diagnosis suggestions
- Utilized Python as the main backend programming language for logic processing, compilation, and execution functions; employed PyTorch for data processing and algorithm implementation
- Implemented Flask framework for main logic service and sentence-related model services to handle requests and process responses
- Integrated Redis as session management database to store user chat history and maintain conversation context
- Leveraged Neo4j graph database as core storage and query engine for medical knowledge graph operations

C++ Based Plants vs. Zombies | *C/C++, Qt, Memory Management* 01/2025 – 02/2025
GitHub: YoggyZhangzhen/PVZ

- Implementing original plants and zombies while extending with custom plant/zombie classes and sound effects to understand business logic implementation
- Developed graphical user interfaces including main menu and preparation screen with complete game operations such as plant placement, removal, zombie generation, and attack mechanics
- Implemented accurate win/loss judgment system and card cooldown effects
- Created two selectable scenarios (night and day mode) with ten plant types and seven zombie types
- Integrated debugging features with special key bindings for rapid zombie generation and sunlight increase

QT Cloud Storage Platform | *C++, Qt, MySQL, TCP/IP, Design Patterns* 03/2024 – 05/2024
GitHub: L-Y-D-0129/YouLian-Cloud-

- Implemented comprehensive cloud storage platform with client-to-client chat functionality, friend management (add/delete), file management, and file download capabilities
- Utilized Qt Designer for page layout and control widget design, creating an intuitive user interface
- Employed MySQL database for persistent storage of user profiles and friend relationship information
- Applied Singleton design pattern to control access permissions for shared resources across the application
- Resolved TCP packet fragmentation and concatenation issues during data transmission to ensure reliable communication

Awards and Honors

National Award, Blue Bridge Cup C/C++ Programming Competition June 2024
Provincial First Prize, China Undergraduate Mathematical Contest in Modeling *(CUMCM)* December 2023
Provincial First Prize, Northeast China Mathematical Contest in Modeling September 2023
Provincial Second Prize, China Undergraduate Mathematics Competition December 2023