

Qingyuan Wan

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Github: <https://github.com/QingyuanWan>

Website: https://qingyuanwan.github.io/QingyuanWan_personal_website/

ACADEMICS

9/2024 - present Northeastern University

- Master's Degree, Major: Computer Science, GPA:4.0

10/2020-6/2024 University of California Irvine

- Bachelor's Degree, Major: Computer Science, GPA:3.3

TECHNICAL KNOWLEDGE

Languages:	Python, Java, C++, C, Lisp, SQL, JavaScript
Web technologies:	React JS, Node JS, ExpressJS, MongoDB, AWS, FastAPI,
Development Tools:	Git, Docker, Unreal Engine, Pytouch, Tensorflow

WORK EXPERIENCE

June 2025 – September 2025, IpserLab

Backend Developer Intern (Java)

- Developed Java backend services and APIs for user interactions and multi-format uploads with rigorous validation and logging.
- Tuned the PostgreSQL data layer with pgAdmin; packaged internal Windows dev tools as self-contained installers to streamline setup.

July 2023 - October 2023, Inspur General Software Co., Ltd.

IoT System Developer Intern

- Diagnosed and resolved back-end system bugs; managed and transformed datasets to support accurate load prediction and improve data reliability.
- Engaged with the development team and investigated neural network models (LSTM on TensorFlow, TCN) for photovoltaic power forecasting, reducing training time through innovative use of Batch Normalization layers.

PROJECT EXPERIENCE

May 2025 – Present, LLM-based AI Assistant App

- A production-grade stack was architected using FastAPI with vLLM to serve Qwen-2.5-7B (4-bit), enabling tool-calling governed by persona/policy JSON and stabilized through structured prompting.
- A cross-platform desktop client was implemented in Electron (Vite/React) with Live2D Cubism 5; avatar gestures and expressions are programmatically bound to dialogue state and tool events to deliver a responsive, character-driven interface.
- Realtime I/O was engineered with streaming ASR and low-latency TTS (XTTS/GPT-SoVITS), incorporating multiplexing and back-pressure control; services are containerized via Docker Compose with end-to-end telemetry (logs/metrics/traces) and CI/CD provided by GitHub Actions and GHCR.

January 2024 - April 2024, Multi-Modal Machine Learning for Energy Poverty Analysis in Sub-Saharan Africa

- Conducted research on energy poverty in sub-Saharan Africa and developed a multi-modal machine

learning model for settlement and electricity detection on satellite imagery.

- Trained the model using a pre-trained ResNet101 model as a baseline for predicting ground truth labels.
- Incorporated settlement detection using U-Net CNN architecture and electricity detection using a Random Forest model into the multi-modal model.
- **Git Repo:** <https://github.com/QingyuanWan/energy-poverty-ml-ssa>

January 2024 - April 2024, Python Based Search Engine Development

- Built a Python-based search engine from scratch with a custom web crawler that indexed all UCI-related webpages within 10 hours with HTML parsing.
- Implemented an inverted index and a custom symbolizer (using a specialized normalization method) to efficiently tokenize and map content for fast retrieval.
- Designed a ranking algorithm and disk-based caching system to deliver relevant search results within 100ms, optimizing for both speed and low memory usage.
- **Git Repo:** <https://github.com/QingyuanWan/python-searchEngine-onUCI>

RESEARCH EXPERIENCE

July 2023 - October 2023, Deep Learning-Enhanced Stock Prediction

Team Member, Supervised by Mark Vogelsberger(Associate Professor), MIT

- Played a pivotal role in a team-oriented environment to develop a stock prediction model using LSTM neural networks.
- Conducted comprehensive research and applied Differential Privacy methods to enhance model accuracy, achieving significant improvements in short-term forecasting accuracy.
- Co-authored a detailed research paper titled "Comparison of Time-Series and Machine Learning Approaches for Stock Price Prediction," accepted by the 2023 5th International Conference on Computer Science and Intelligent Communication(CSIC 2023).

April 2023 - January 2024, Advanced Human Skeletal Recognition Model Development

Research Associate, Supervised by: Saad Manzur, Ph.D. Candidate at UCI; Advisor: Wayne Hayes, Associate Professor, Department of Computer Science, UCI

- Acquired proficiency in UE5, network resource utilization, and Git for version control.
- Conducted rigorous testing and validation using UE5-generated datasets; Rectified skeletal prediction inaccuracies in CV models using UE5's character models.
- Constructed a standalone AI system in C++ and integrated it as a UE5 plugin.
- Gained expertise in character modeling, retargeting, and motion blueprint logic.