Qiyu (Allen) Zhong

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EDUCATION

Union College **Schenectady, NY**
Bachelor of Science (BS) in Computer Science | Minor in Statistics June 2022
Coursework: High Performance Computing, Neural Networks, Regression Analysis, Strategy of Experimentation, Data Structures

TECHNICAL SKILLS

Programming and Scripting Languages: Python 3, C18, C++19, Java SE, MySQL 8.0, PowerShell, Rust, MIPS
Web and Mobile Development: Flask, Django, HTML, CSS, Vanilla JavaScript, Spring Boot, Flutter
Data Science, Machine Learning, and Cloud Computing: Pandas, PyTorch, SciPy, Matplotlib, Tableau, Docker, Nginx
Software Engineering and Version Control: Google Cloud Platform, AWS EC2, Ali Cloud ECS, Git
Networking and Operating Systems: macOS, Windows, Ubuntu, CentOS, Nginx, QoS

WORK EXPERIENCE

Coding Minds Academy, CS Tutor July 2021 – December 2021, September 2023 – March 2024
- Lead an 8th grader to build an eye-tracking APP reminding tiresomeness, with MediaPipe in Python and OpenCV in C++
- Taught basic Java, C++, Python, JavaScript, and FlutterFlow to Irvine K-6 students, with code review and live-demo

Textbook Development, Suzhou Flying Technology Co., ltd., Assistant Editor May 2023 – August 2023
- Trained GPT-3.5 with Simplified Chinese to generate contents of 2 textbooks for vocational students in Yunnan Province
- Extracted the keywords from textbooks to make artificial mappings and hand-labelled textual data to make revisions

Geospatial Data Augmentation of Anti-Fraud Detection, China Merchant Bank, Pre-Loan Risk Management Intern July 2023
- Replicate methodologies for papers about anti-fraud detection using geospatial data and graph-based ML algorithms
- Practice case review by querying relevant internal databases on car loan applications by citizens in mainland China

Union College, Residential Life & Housing, Residential Advisor September 2019 – March 2020
- Stayed tuned with 30 West College first-year students through 1-on-1 talks, floor programs, and college-wise guidance
- Secured the residence with weekly duties and monthly inspections with campus safety with weekly & biweekly reports

PROJECTS

House Assortment Organizing System, AgentScope Bootcamp, Beijing March 2024 – Present
- Use Gradio, simulated furniture specs, stable diffusion, and ModelScope to build a study desk recommendation pipeline

Kamen Rider Blade Roleplay Simple Version, InternLM Bootcamp #1, Shanghai January 2024 – Present
- Collect gigabytes of multi-modal data from Kamen Rider Blade's media to put up a dataset mirroring the media's verse
- Apply a PEFT fine-tuner and RAG modules in the models training a multi-agent system to interact with the characters

Center for Geospatial Analysis (CGA), Harvard University August 2022 – July 2023
- Tested and debugged the CGA professors and lab researchers' KNIME workflows with the node-based analytical toolkits
- Attempted to develop an extension of NetworkX and PyG for mining geospatial graph data on community detection

High Performance Computing, Union College April 2022 – June 2022
- Applied MPI and OMP in C to simulate vector operations and numerical integration of Pi with an average 20% speedup

Place Recognition at Union College, Union College September 2021 – June 2022
- Shot on 30 campus buildings for 15000 photos, converted formats in Apple Photos, and feature engineered with Python
- Used scikit-learn models to classify 8 buildings in 5000 photos, with a LaTeX paper for model performance analysis done

Regression Analysis, Union College January 2021 – March 2021
- Mined a U.S. university admissions dataset to infer acceptance rates with 8 statistically significant factors out of the 20
- Made 5 iterations on a 3-way ANOVA model with ablation studies, with an R^2 adjusted of 0.8 on the engineered data

Data Structures, Union College January 2020 – March 2020
- Implemented a BST-based English thesaurus for storing the corpse of English words for a retrieval task with BoW model

Introduction to Connected Intelligent Systems, Peking University July 2019 – August 2019
- Studied basic digital circuits, signal processing and simulation, and neural networks to understand the C-I infrastructure
- Read industry-based analytical reports regarding the trend of development in the 5G communication networks and CIS

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Stanford University, Code in Place Virtual Program, Volunteer April 2021 – May 2021
- Taught a diverse group of students on basic Python control flow and data structures with real world examples and Karel

Union College, Chinese Students & Scholars Association, Tech Group Member January 2020 – June 2021
- Volunteered to design of an auxiliary website that uses past course selection data to suggest classes to take every term

Union College, **Society of Automotive Engineers** (**SAE**) **Aero**, Member September 2018 – March 2020
- Served as the pod engineer to research, deploy, and debug the electronic system in FrSky for a radio-controlled plane