Wenhao He

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Technical Skills

Languages: Python, C#, Java, JavaScript, C/C++, HTML/CSS, MATLAB
Cloud/Databases: MongoDB, SQL, MySQL, NoSQL, AWS, Google Cloud Platform (GCP), Google Firebase, AWS SageMaker, AWS S3, AWS EC2, AWS OpenSearch
Developer Tools: Docker, Kubernetes, Git, GitHub, PyCharm, Visual Studio Code, IntelliJ IDEA, Tableau, Figma, Slack
Frameworks/Libraries: React, React Native, Django, Flask, PyTorch, TensorFlow, Scikit-learn, Matplotlib, Numpy, Pandas, Jupyter Notebook, PySpark, Apache Hadoop, OpenCV, NodeJS

Education

•University at Buffalo, The State University of New York *Aug 2022 - May 2024*
Master of Science in Engineering Science focus on Artificial Intelligence
Coursework: Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning, Pattern Recognition

•University at Buffalo, The State University of New York *Aug 2018 - May 2022*
Bachelor of Science in Computer Science
Coursework: Data Structures, Computer Networking, Algorithms, Systems Programming, Computational Linguistics

Work Experiences

CAN International Corp New York, NY
Software Engineer Internship *Apr 2024 - Present*

- Developed high-performance, reliable, testable code for a full-stack CAN membership app that includes job searching, mentor-mentee matching, and chat features
- Collaborated with a team in daily and weekly stand-ups, participating in design, code review, and sprint planning
- Implemented secure data storage, authentication, and real-time data fetching with Google Firebase
- Optimized avatar loading algorithms, reducing processing time from 5 minutes to a few seconds, ensuring application scalability for 500+ users
- Debugged and resolved critical bugs to enhance system reliability, actively participating in post-mortems and improving fault tolerance of the application
- Integrated secure handling and logging mechanisms, improving system performance and stability

Projects

Movie Recommendation System: Machine Learning Engineer *July 2024 - Present*
A web app for a movie recommendation system utilizing a custom Transformer Deep Learning model

- Built a scalable web application leveraging custom Transformer models for personalized movie recommendations, utilizing real-time TMDb metadata
- Architected and optimized an efficient data pipeline using AWS S3 and SageMaker for large-scale model training and data storage, ensuring high availability and performance
- Applied CI/CD practices, including automated testing and continuous integration to maintain high code quality and system stability
- Incorporated code reviews and feedback loops to improve system performance and recommendation accuracy

Audio Cloning: Project Leader & Software Engineer *Aug 2023 - Feb 2024*
Developed SV2TTS model to replicate judge's voice from the Brown v. Board case

- Led the development of a three-stage pipeline deep learning SV2TTS to clone voices unseen during the training
- Applied UMAP for dimensionality reduction, preserving key voice features while ensuring model efficiency and scalability
- Integrated continuous model evaluation and automated testing for maintaining high voice accuracy across unseen datasets
- Collaborated with a cross-functional team in code reviews and regular sprints to improve model accuracy and reduce system latency, achieving 90% voice replication accuracy through real-world audio comparison.

Costumer Maximum Open Credit Prediction System: Software Engineer *Aug 2023 - Jan 2024*
ML model to estimate customer open credit limits using comprehensive financial data

- Collaborated on building a ML-based credit prediction system for financial institutions, achieving 88% accuracy in predicting customer open credit limits
- Conducted data cleaning and exploratory data analysis (EDA) on a 50k-row bank customer dataset, leveraging Numpy, Pandas, and Hadoop to identify key predictive variables
- Designed and optimized six machine learning models (including Ridge Regression and SVR) for performance, leveraging cross-validation to improve model generalization
- Implemented CI/CD pipelines for model deployment, ensuring efficient model updates and seamless integration with existing systems evaluations