

HEXU YANG

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EDUCATION

SINGAPORE MANAGEMENT UNIVERSITY Master of IT in Business (Artificial Intelligence)	Aug 2023 - Jan 2025
SOUTHWESTERN UNIVERSITY OF FINANCE & ECONOMICS(SWUFE) Bachelor of Science in Financial Engineering	Aug 2016 - Jul 2020

WORKING EXPERIENCE

Syncarta Privative Limited –Singapore	May 2025 - Oct 2025
Full-Stack Software Engineer <ul style="list-style-type: none">Developed full-stack web application for real-time PVC card customization with multi-language support and AI-powered design toolsBuilt high-fidelity rendering engine using Canvas API, generating print-ready 300/600 DPI images with material-specific processingDeployed production system on AWS EC2 with Node.js/Express backend, achieving 24/7 uptime via PM2 and NginxImplemented modular AI integration featuring background removal, image expansion, and style transfer capabilities with zero-modification architecture patternTech Stack: JavaScript (ES6+), Node.js, Express.js, Canvas API, AWS EC2, Nginx, PM2, HTML5/CSS3	
PAN-CHINA CERTIFIED ACCOUNTANTS (PCCA) –Chongqing, China	Jul 2020 - Sep 2021
Business Advisory Audit SOUTHWEST SECURITIES (FINANCIAL SERVICES) – Chongqing, China	Jul 2018 - Aug 2018
Quantitative Intern Analyst	

ACADEMIC PROJECTS

Natural Language Processing - RAG System (Python)	Aug 2024
<ul style="list-style-type: none">Designed and deployed a Retrieval-Augmented Generation (RAG) system for personalized marketing content generation using Google Cloud AlloyDB and Vertex AI. Implemented semantic search with pgvector embeddings (768-dim) and evaluated LLM outputs (Gemini-1.5-pro) using Coherence, Relevancy, and Contextual Precision metrics. Compared multiple prompting strategies (zero-shot, few-shot) for optimal content generation.	
Recommender System - Movie Recommendation (Python)	Aug 2024
<ul style="list-style-type: none">Developed hybrid movie recommendation system combining content-based and collaborative filtering approaches. Implemented matrix factorization techniques (WMF, BPR, BiVAE) and integrated LibFM for factorization machines. Merged MovieLens and TMDb datasets with feature engineering to generate personalized top-50 recommendations, demonstrating proficiency in both individual and collaborative filtering methods.	
AI System Evaluation - Backdoor Detection (Python)	May 2024
<ul style="list-style-type: none">Developed and evaluated multiple backdoor detection techniques (SODA, Neural Cleanse, Activation Clustering) for deep learning models. Analyzed 5 backdoored models across MNIST and CIFAR-10 datasets, implementing state-of-the-art defense mechanisms to identify and mitigate backdoor attacks in neural networks.	
Applied Machine Learning - Earthquake Aftershock Prediction (Python)	Feb 2024
<ul style="list-style-type: none">Predicted earthquake aftershocks using 40-year seismic data (59K+ events) by implementing Random Forest, Gradient Boosting, and Neural Networks. Achieved R^2: 0.269 through feature engineering and temporal pattern analysis.	
Big Brother Surveillance System (SQL)	Feb 2024
<ul style="list-style-type: none">Utilized Mysql to build a schema about the Big Brother Surveillance System to store and retrieve data, also created several stored procedures and triggers for different use by coding with SQL.	

ADDITIONAL

- Technical Skills: Python, SQL, Machine Learning, Reinforcement Learning, Deep Learning, NLP, Excel
- <https://github.com/Hosheaaa>