Ailin Yu

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Computer Science postgraduate with practical experience in AI, data analysis, and full-stack development. Skilled in designing scalable systems, optimizing processes, and delivering data-driven insights that inform strategic business decisions. Former film-tech producer experienced in managing projects worth £10-20M and coordinating cross-functional teams. Passionate about leveraging AI, cloud, and data engineering to reduce operational complexity, drive efficiency, and deliver measurable business impact.

Education

MSc Computer Science (Merit) - University of Birmingham | Sep 2024 - Sep 2025
- Delivered full-stack applications using Python and SQL databases, integrating authentication and secure data storage.
- Applied regression modelling and machine learning algorithms to solve real-world data problems, enhancing predictive accuracy by 20%.

BA Cinema and Television - Hong Kong Baptist University | Sep 2016 - Jun 2020
- Developed strong analytical, communication, and project coordination skills through large-scale media productions.

Professional Experience

Data Management Assistant - Huimuyinghua Culture Development Co., Ltd, China | Jul 2022 - Aug 2023
- Developed a storage forecasting model using Excel's FORECAST.ETS, predicting six-month capacity needs with 98% accuracy, aiding strategic infrastructure investment.
- Architected a scalable storage system supporting 200TB+ of raw footage and 3 concurrent teams, maintaining 99.97% data integrity.
- Collaborated with senior management to prioritize resources, producing actionable insights that improved operational efficiency by 15%.

Post-Production Producer - Cutting Edge Pictures Co., Ltd, China | Feb 2021 - Apr 2022
- Directed post-production pipelines for 10+ theatrical films, including 2 IMAX releases, managing budgets of £10-20M across 8 specialist divisions.
- Reduced asset turnover time by 30% while maintaining high-quality 4K DI workflows for concurrent projects.
- Implemented Synology-based asset tracking and secure storage, supporting simultaneous delivery of 2K/4K masters for 5 projects, including a Cannes Film Festival-shortlisted title.

Project Experience

BiteBerry - AI-Powered Budget-Based Meal Planner | Jun 2025 - Sep 2025
- Designed full-stack application with FastAPI backend and React/TailwindCSS frontend; integrated budget-based dietary recommendations.
- Implemented SQL query optimization with indexed tags, reducing app load times by 40% for 10K+ records.
- Achieved 25% average cost savings for users through data-driven meal planning recommendations.

Ocean Quest - Real-Time AI Voice Assistant | Aug 2025 - Sep 2025
- Built a high-performance RAG model for real-time queries on marine ecosystems with 90%+ retrieval accuracy.
- Developed low-latency TTS pipeline using Azure Cognitive Services, reducing voice response delay by 30%, enhancing user immersion.

SuperQA - Biomedical Q&A System | HealthTech Hackathon (3rd Place) | Mar 2025
- Engineered web app using OpenAI GPT-4o for semantic search, achieving 0.82 cosine similarity on 20k+ PubMed abstracts.
- Analyzed cloud vs local deployment, delivering 30% cost savings through informed technical decisions.
- Preprocessed and validated datasets before embedding, ensuring high retrieval accuracy.

That's Awkward - AI Conversation Assistant | BirmingHack 2025 (Best Newcomers & 3rd Place) | Mar 2025
- Developed AI script generator integrating Google Gemini and TTS APIs, handling 50+ requests with 95% success rate.
- Coordinated team workflow during a 24-hour hackathon, ensuring on-time project delivery under strict deadlines.

Skills

- **Programming & Databases:** Python (Advanced), JavaScript (Advanced), HTML, CSS, SQL (PostgreSQL, SQLite)
- **Frameworks & Tools:** React, FastAPI, Flask, Next.js, TailwindCSS, Vercel, Git/GitHub
- **AI & Data Science:** Retrieval-Augmented Generation (RAG), LLM Integration, Vector Databases, Excel (FORECAST.ETS)
- **Database & Optimization:** SQL Query Optimization, Indexed Tags, Data Validation, PostgreSQL
- **Media Systems & Real-Time Pipelines:** Low-Latency Pipeline Development, Multimedia Workflows, AI system Integration
- **Soft Skills:** Analytical Thinking, Communication, Curiosity, Adaptability, Leadership, Creativity, Attention to Detail
- **Languages:** English (Fluent), Mandarin Chinese (Native), Cantonese (Native)