

# Rain Hu

AI Solution Architect — Senior Software Engineer

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## PROFESSIONAL SUMMARY

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Innovative AI Solution Architect and Senior Software Engineer with expertise in developing and implementing AI-powered applications, particularly in conversational AI and natural language processing. Successfully led the development of enterprise-scale AI chatbot solutions, implementing advanced features including Retrieval-Augmented Generation (RAG) technology. Demonstrated ability to architect scalable solutions across multiple regions while maintaining high performance and security standards. Strong track record in leading technical discussions, mentoring teams, and bridging communication between technical and business stakeholders through effective Domain-Driven Design implementation.

## CORE COMPETENCIES

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- **AI Technologies:** Machine Learning, NLP, RAG, LangChain, Vector Databases
- **Programming Languages:** Python, C#.NET, TypeScript, Java
- **AI Frameworks:** LangChain, ChromaDB, Neural Networks
- **System Architecture:** Clean Architecture, CQRS, Microservices, DDD
- **Development Practices:** TDD, Agile Methodologies, CI/CD
- **Database Technologies:** SQL, Vector Databases (ChromaDB), PostgreSQL
- **Tools & Platforms:** Git, Docker, Visual Studio, VS Code
- **Languages:** Chinese (Native), English (TOEIC - 775/900), Korean (TOPIK I - 180/200)

## PROFESSIONAL EXPERIENCE

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### Senior Software Engineer — UMC — 08/2022 - Present

- **AI Chatbot Development**
  - Led the development of DSM Bot, an enterprise-grade AI assistant utilizing RAG technology
  - Implemented advanced NLP features for accurate query understanding and response generation
  - Integrated vector database (ChromaDB) for efficient information retrieval
  - Designed scalable architecture supporting multiple user interfaces and API endpoints
- **Cross-Platform Integration**
  - Developed ChatGPT plugins and APIs for real-time system integration
  - Created robust backend services handling complex data processing and analysis
  - Implemented secure authentication and authorization mechanisms
- **Team Leadership**
  - Led technical discussions and architecture design sessions
  - Mentored junior developers, improving team productivity by 25
  - Collaborated with stakeholders to gather requirements and provide solutions

## KEY PROJECTS

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### DSM Bot - AI-Powered Assistant

- Architected and developed an enterprise-grade chatbot using RAG technology
- Implemented advanced features including:
  - Natural language understanding and processing
  - Context-aware response generation
  - Real-time data integration
  - Multi-platform support (Web, API)
- **Tech Stack:** Python, C#.NET, React TypeScript, LangChain, ChromaDB
- **Architecture:** Clean Architecture, CQRS

### UEDA 5.0 - Enterprise Data Platform

- Led development of multi-regional data analysis platform
- Implemented AI-driven analysis capabilities
- Designed cross-database integration solutions
- Improved system efficiency by 40
- **Tech Stack:** C#.NET, React, TypeScript

## EDUCATION

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### MS in Material Science and Engineering — National Tsing Hua University — 2014 - 2018

- GPA: 3.97

### BS in Material Science and Engineering — National Tsing Hua University — 2010 - 2014

- GPA: 3.61