

# Chung, Chih-Han (Harry Chung)

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## EDUCATION

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<b>National Taiwan University, Master's</b> Department of Mechanical Engineering, Taiwan	<b>Taipei, Taiwan</b> Sep 2023 - Present
<b>National Taiwan University, Bachelor's</b> Department of Mechanical Engineering, Taiwan	<b>Taipei, Taiwan</b> Sep 2019 - Jun 2023
Department of Bioenvironmental Systems Engineering, Taiwan	Sep 2019 - Jun 2023

## INTERNSHIP and AMBASSADORS EXPERIENCE

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### *AWS Educate 7th Cloud Ambassador Tech Lead, AWS* *Jan 2025 - Present*

- Led a 7-person development team, applying Agile and Scrum to optimize software development and accelerate project delivery.
- Designed a fully serverless email system (TPET) with microservices and Terraform, cutting costs to \$1.5 per month and workload by 80%.
- Implemented CI/CD pipelines with GitHub Actions, Docker, ECR, and Terraform to enable rapid deployment and IaC for consistent environments.

### *AWS Educate 6th Cloud Ambassador Tech, AWS* *Mar 2024 - Nov 2024*

- Developed an interactive web application using Amplify, Lambda, API Gateway, DynamoDB, and the open-source PokéAPI, allowing users to interact with Pokémon. ([Becoming a Pokémon Master !](#))
- Developed and launched a psychological test using S3, CloudFront, API Gateway, Lambda, Route 53, and Bedrock, attracting over 7,000 users within 17 days. ([AWS Psychological Test](#))
- Organized multiple workshops and served as a speaker at AWS Community Day, sharing experiences as an ambassador

### *Cloud Engineer Intern, eCloudvalley* *July 2024 - Sep 2024*

- Deployed parts of MediaTek DaVinci scripts using IaC (Infrastructure as Code) tools, reducing manual deployment costs.
- Deployed the full MVP2 platform using IaC tools, including virtual network, vnet peering, site-to-site VPN, VPN gateway, Route Table, DNS Resolver, APP service, Azure Functions, OpenAI service, CosmosDB, Storage Account, Azure Container Registry, and Key Vault.

### *AI Application Service Intern, Information Technology Group, Chunghwa Telecom* *Feb 2024 - Jun 2024*

- Researching prompt engineering for large language models using DSPy.
- Integrating Knowledge Graph with Neo4j and enhancing RAG answer accuracy through LangChain.

### *Overseas Internship Program, Ministry of Education* *Jul 2022 - Aug 2022*

- Participated in LEWIS project at the University of New Mexico, USA, designed high-efficiency wireless smart sensors at low cost, and taught local children to assemble their own Arduino sensors

## AI PROJECT EXPERIENCE

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### *Generative Technology Expert Consultant System, NTU* *Aug 2023 - present*

- Fine-tuned QLoRA with Falcon7B model, reduced memory usage through 4-bit quantization, decreased hallucinations, enhanced professionalism in responses
- Enhanced generation through RAG, embedding data into Pinecone vector database, using llama2-7b for retrieval responses

- Linked with Microsoft SQL through LangChain, established SQL agent for interaction with MSSQL, SQL agent understood user commands, generated and executed corresponding SQL syntax, provided answers based on results
- Established a chat interface with Llama Index and Next.js, created a login system for authorization management, searched index data for professional responses

***AI Analysis Software and System Interface Development for Agricultural Product Sales, Taipei Agricultural Products Marketing Corporation*** ***Sep 2021 - Jul 2022***

- Machine Learning Models: DNN, RNN
- Compiled and processed data, including classifying various fruits and vegetables, correcting shipment quantity errors
- Predicted future shipments of agricultural products using trained models to reduce waste

**WEB SERVICE EXPERIENCE**

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***Cloud-Native Application Development, NTU*** ***Sep 2023 - Dec 2023***

- Developed a TSMC employee meal ordering system using MERN stack
- Implemented high-availability architecture with Azure Load Balancer and configured App Service auto-scaling rules to dynamically provision additional Docker containerized backend servers when CPU utilization exceeds predetermined thresholds
- Engineered and stress-tested system to handle peak traffic of 70,000 concurrent users, successfully processing approximately 100 GET requests/second and 35 POST/PUT requests/second during sustained 10-minute peak periods.

***Web Service Programming, NTU*** ***Sep 2023 - Dec 2023***

- Created a dog dating platform using Next.js, implementing responsive UI with modern React patterns and server-side rendering
- Integrated machine learning models to identify dogs from photos and enforce upload validation, ensuring only images containing dogs could be successfully processed
- Deployed application on Vercel for seamless continuous integration and automatic preview.

**SKILLS**

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***Language*** : English (TOEIC: 935), Mandarin (Native)

***Professional Skills*** : Python, Typescript, MongoDB, React, Node.js, Express, SQL, Next.js, Tailwind, AWS, Azure, Terraform, Docker

***Methodologies*** : Agile Development, Scrum Framework

***Certificate*** : AWS Certified Solutions Architect - Associate

# 鍾至漢 Chung, Chih-Han

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## 學歷

國立台灣大學, 碩士	Taipei, Taiwan
機械工程研究所	Sep 2023 – Present
國立台灣大學, 學士	Taipei, Taiwan
機械工程學系	Sep 2019 – Jun 2023
生物環境系統工程學系	Sep 2019 – Jun 2023

## 實習、校園大使經驗

### AWS Educate 7th Cloud Ambassador Tech Lead, AWS Jan 2025 - Present

- 帶領7人團隊使用敏捷開發方法論，熟練運用Scrum框架高效交付專案。
- 透過microservices以及Terraform開發完全serverless寄信系統 (TPET)，月花費僅 \$1.5美元，即可將工作量減少高達 80%。
- 實施CI/CD流程，結合GitHub Actions、Docker、ECR和Terraform，實現快速部署及基礎設施即代碼，確保環境一致性。

### AWS Educate 6th Cloud Ambassador Tech, AWS Mar 2024 - Nov 2024

- 以Amplify, Lambda, API Gateway, DynamoDB 搭配開源的PokéAPI，打造互動網頁 (Pokémon Master養成記) 讓使用者可以與寶可夢互動
- 以S3, CloudFront, API Gateway, Lambda, Route 53, and Bedrock開發並發布心理測驗 (AWS Psychological Test)，17天內使用者超過7000人
- 舉辦多場工作坊活動，並且在AWS community day 擔任講者分享大使經驗。

### Cloud Engineer Intern, 伊雲谷 July 2024 - Sep 2024

- 藉由IaC (Infrastructure as Code)工具部署MediaTek DaVinci的部分腳本，減少人工部署成本
- 藉由Infrastructure as Code工具(Terraform)部署完整MVP2平台，包含Virtual Network, Vnet Peering, Site to Site VPN, VPN Gateway, Route Table, DNS Resolver, App service, Azure Functions, OpenAI service, CosmosDB, Storage Account, Azure Container Registry and Key vault.

### AI應用服務技術發展實習生, 中華電信-數據通信分公司 Feb 2024 - Jun 2024

- 透過DSPy研究大型語言模型提示工程
- 使用Neo4j整合Knowledge Graph，透過LangChain提升RAG回答準確率

### 學海築夢計畫, 教育部 Jul 2022 – Aug 2022

- 到美國墨西哥大學實驗室參與 LEWIS 計畫，以低花費設計出高效率無線智慧感測器，並且以導師的身分，教導當地小孩組件自己的Arduino感測器。

## AI 專案經驗

### 生成式技術專家顧問系統, NTU Aug 2023- present

- QLora微調Falcon7B模型，透過4bit量化減少內存，降低幻覺，提升回答專業性
- 以RAG進行檢索增強生成，Embed資料到Pinecone向量資料庫內，透過llama2-7b檢索回答

- 以Llama Index與Next.js建立聊天介面，建立登入系統管理授權，搜尋索引資料回答專業問題
- 以Streamlit還有Ollama搭建本地端聊天系統，模型包括Taide-7B、llama以及llava等。

### 營業部農產品銷售AI分析數據軟體及系統介面開發，臺北農產運銷公司

Sep 2021 - Jul 2022

- 機器學習模型: DNN、RNN
- 彙整詮釋資料並進行資料處理，包括分類各品項蔬果，修正出貨數量缺失等謬誤
- 透過訓練好的模型預測農產品未來出貨數量，減少蔬果浪費

### 網路服務經驗

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#### 雲原生應用程式開發，NTU

Sep 2023 - Dec 2023

- 以MERN技術架設台積電員工點餐訂購系統
- 實現高可用性架構，使用Azure Load Balancer並配置App Service自動擴展規則，在CPU使用率超過預設閾值時動態配置額外的Docker容器化後端伺服器
- 設計並進行壓力測試，系統能處理70,000名用戶的巔峰流量，在持續10分鐘的高峰期間成功處理約每秒100次GET請求和35次POST/PUT請求

#### 網路服務程式設計，NTU

Sep 2023 - Dec 2023

- 使用Next.js創建寵物狗交友平台，實現響應式UI，採用現代React模式和伺服器端渲染
- 整合機器學習模型識別照片中的狗，並強制執行上傳驗證，確保只有包含狗的圖片才能成功處理
- 在Vercel上部署應用程式，實現無縫持續整合和自動預覽功能

### 技能

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語言技能：英文 (TOEIC: 935), 中文(母語)

專業技能：Python, Typescript, MongoDB, React, Node.js, Express, SQL, Next.js, Tailwind, AWS, Azure, Terraform, Docker

開發方法：Agile Development, Scrum Framework

專業證照：AWS Certified Solutions Architect - Associate