

# Chung, Chih-Han (Harry Chung)

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## EDUCATION

**National Taiwan University, Master's**  
Department of Mechanical Engineering, Taiwan

**Taipei, Taiwan**  
Sep 2023 - Present

**National Taiwan University, Bachelor's**  
Department of Mechanical Engineering, Taiwan  
Department of Bioenvironmental Systems Engineering, Taiwan

**Taipei, Taiwan**  
Sep 2019 - Jun 2023  
Sep 2019 - Jun 2023

## INTERNSHIP and AMBASSADORS EXPERIENCE

### *AWS Educate 6th Cloud Ambassador Tech, AWS*

*Mar 2024 - Present*

- 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](#))
- Using microservices to create a fully serverless email system ([TPET](#)) for only \$15, reducing workload by up to 80%.
- 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

### *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

### *Cloud-Native Application Development, NTU*

*Sep 2023 - Dec 2023*

- Developed a TSMC employee meal ordering system using MERN stack
- Handled peak period load through horizontal scale-out and Load Balancer

### *Web Service Programming, NTU*

*Sep 2023 - Dec 2023*

- Created a dog dating platform using Next.js
- Used machine learning models to identify dogs in photos, allowing successful matches to initiate chats

## OPTIMIZATION PROJECT EXPERIENCE

### *The Chinese Society of Mechanism and Machine Theory*

*Jul 2019 - Feb 2020*

- Third author in "Comparison of Different Offset Arrangements of Concave Faces of Conjugate Cam Mechanisms with Concave-Faced Followers" :
  - Analyzed and compared cam mechanisms with concave-faced followers under different offsets
  - Simulated conjugate cams in Inventor and analyzed in Matlab, effectively reducing contact stress and improving efficiency

### *Optimized Production Operations for BIM Steel Plate, Main Body Plate, and Scheduling, Ministry of Science and Technology*

*Aug 2020 - Feb 2021*

- Used Monte Carlo method for optimizing cutting of Tungsten Steel Structure's main body plates, aiming to shorten cutting time and reduce waste
- Made production scheduling independent of limited human resources, ensuring stable factory shipments

## MARKETING COMPETITION EXPERIENCE

### *20th TAA Campus Creative Proposal Competition 2023, Taiwan Advertisers Association*

*Mar 2023 - Jul 2023*

- Proposed "Xinyi Summit Carnival," increased brand exposure through media and social activities, including Facebook online writing project "Xinyi Believes in You! It's Never Too Late to Reach the Summit," Instagram filter challenge "A-Yi's Seed Planting Challenge," and exposure through image ads
- Held brand events such as "Summit of Xinyi," "Green Market," to enhance Xinyi Real Estate's brand visibility and deepen customer connection

## SKILLS

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

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

**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 6th Cloud Ambassador Tech , AWS Mar 2024 - Present

- 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
- 透過microservices打造完全serverless寄信系統 (IPET)，僅花費 \$15，即可將工作量減少高達 80%。
- 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 - September 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(Terra)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

### 雲原生應用程式開發，NTU

Sep 2023 - Dec 2023

- 以MERN架設台積電員工點餐系統
- 通過水平Scale out和Load Balancer處理顛峰時段的負載

### 網路服務程式設計，NTU

Sep 2023 - Dec 2023

- 以Next.js打造狗狗交友平台
- 透過機器學習模型判斷照片中的狗，配對成功可以開啟聊天

## 最佳化專案經驗

### 全國機構與機器設計學術研討會

Jul 2019 - Feb 2020

- <<Comparison of Different Offset Arrangements of Concave Faces of Conjugate Cam Mechanisms with Concave-Faced Followers>>第三作者：
  - 凹面從動件的凸輪機構在不同偏置下的比較與分析
  - 以Inventor模擬共軛凸輪機，並且透過Matlab分析，有效降低接觸應力與提高效率

### 優化BIM鋼板、主體板與排程的生產作業

Aug 2020 - Feb 2021

- 使用蒙地卡羅方法優化鋁鋼結構主體板的切割，旨在縮短切割時間並減少浪費
- 使生產排程不再依賴有限的人力資源，確保工廠穩定出貨

## 行銷比賽經驗

### TAA第二十屆2023校園創意提案競賽，台灣廣告主協會

Mar 2023 - Jul 2023

- 以《信義巔峰嘉年華》作為提案主軸，透過媒體社群活動曝光，藉由Facebook線上徵文計劃《信義信你！一生巔峰不嫌晚》、Instagram濾鏡挑戰《阿義種種子挑戰》與形象廣告曝光
- 提案舉辦《信義之巔》、《綠色市集》等品牌活動，提升信義房屋品牌曝光度，加深品牌與顧客連結。

## 技能

語言技能：英文 (TOEIC: 935), 中文(母語)

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

專業證照：AWS Certified Solutions Architect - Associate