CHUN-MAO (MICHAEL) LAI

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EDUCATION

University of California San Diego   09/2024 − 06/2026
MS. in Computer Science and Engineering   *La Jolla, California*
- Courses: Parallel Computation, Software Engineering, Recommender Sys and Web Mining, etc.

University of Illinois Urbana-Champaign   08/2023 − 12/2023
Exchange Program in Electrical and Computer Engineering   *Urbana, Illinois*
- GPA: 4.0/4.0; Courses: Machine Learning, The Principles of Safe Autonomics, Distributed Systems.

National Taiwan University   09/2020 − 06/2024
BSE. in Electrical Engineering   *Taiwan*
- GPA: 4.16/4.3; Five Machine Learning publications; One-time Dean's List recipient.
- The Member of Phi Tau Phi Scholastic Honor Society of the Republic of China.

SKILLS/QUALIFICATIONS

Programming	Python, C/C++, Javascript/Typescript, Golang, Swift, LaTeX
Data Analysis	MySQL, PostgreSQL, MongoDB, Redis
Web Development	HTML/CSS, React, NextJS, Tailwind, ThreeJS, ExpressJS, GraphQL, Prisma, Flask
Technology	Git, Docker, Kubernetes, GoogleAPI, TensorFlow, PyTorch, Huggingface

WORK EXPERIENCE

Appier (Attending)   06/2024 − 08/2024
LLM Research Scientist (Summer Intern)   *Taiwan*
- Collaborated with senior research scientists to design and implement experiments for improving LLM performance.
- Developed and implemented algorithms for training and fine-tuning large language models.

Taiwan Semiconductor Manufacturing Company(TSMC)   06/2023 − 07/2023
Machine Learning Research Engineer Intern   *Taiwan*
- Designed and developed an innovative pairwise Style Transfer model for super-resolution images (3M pixels per image), resulting in a 50% reduction in error rates.
- Optimized the data pipeline with Python MPI for image extraction and processing, achieving a 75% reduction in processing time.
- Implemented TensorFlow distributed computing across 2 nodes with 4 A100 GPUs each, boosting training efficiency by 5 times.

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

Open Source - Flyte   04/2024 − Present
Open Source Developer   *Remote*
- Contribute to the Flyte project, a machine learning and data processing platform primarily written in Golang and Python, with a codebase of over 1,000,000 lines.
- Enabled unsafe typing in Flytekit, facilitating easier migration of existing codebases by allowing developers to bypass type checking.
- Fixed the usage of the Any type in Flytekit, allowing correct use of Any type via the command line with the Click package.

NTUEE Light Dance   09/2021 − 07/2023
Software Leader, https://www.youtube.com/@ntueelightdance6849   *Taiwan*
- Led a 25-member team responsible for developing the Light Dance editor service, managing a substantial codebase of 800,000 lines.
- Built the backend service from scratch to facilitate the storage of light dance data (up to 5GB) on a server and provide a co-editing environment.
- Optimized data structure with SQL-based database, reducing client-side latency to less than 1 second per operation.
- Achieved significant visibility with 40,000 views on YouTube for the Light Dance video in 2022.

NTUEE Student Association Information Department   09/2020 − 07/2023
Minister, https://github.com/NTUEEInfoDep   *Taiwan*
- Led a team of 40 individuals in producing and maintaining student association websites and services, which included 8 long-standing services and various activity-based services, benefiting over 1,000 students.
- Offered weekly technical courses to NTUEE students and trained department members in website and service development.
- Collaborated with the Student Association to organize NTUEE Week, NTUEE Night, MakeNTU, and other departmental activities.

iOS Club - National Taiwan University   02/2024 - 06/2024
Member   *Taiwan*
- Engaged in weekly courses focused on developing and building iOS apps with Swift and Xcode.
- Competed in the MAIC Competition, networking with iOS developers and learning cutting-edge technologies such as LLM.swift.

SELECTED PROJECTS

NTUEE Course Pre-selection Website   01/2021 − 07/2023
Project Leader, NTUEE Student Association Information Department
- Designed and implemented an algorithm based on the stable marriage problem to ensure accurate and fair distribution among 1,000 department students, considering their preferences and complex priority rules.
- Utilized Docker to manage services during course selection for 5 semesters, ensuring a smooth user experience for all students.

Infant Monitor   05/2024
MakeNTU Contestant, Best Creativity Prize, STMicroelectronics Company Prize 1st Place
- Developed a real-time infant monitor system that detects the infant's status and sends alerts to parents' mobile phones.
- Designed a decision-making system using MediaPipe to control 14 servo motors, ensuring the infant is turned to a safe position.