Po Wei Hsu (Sander)

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BRIEF INTRODUCTION

Skilled software engineer (Python, Golang) with 2+ years' experience. Passionate about machine learning. Led projects from architecture to API development. Deep network protocol knowledge (co-authored journal paper). Internship at PEGATRON and SWAG: proposed methods improved multiple projects.

2+ years of experience in Software Development.
1+ years of experience in ML, DL and CV.
1+ years of experience in QA Engineering.
1+ years of experience in Data Engineering.

EDUCATION

National Pingtung University

BBA. in Information Management

Aug 2019 - Jul 2023 Pingtung, Taiwan

RelevantCoursework:

Programming, Data Structures and Algorithms, Database Systems, Information Systems Analysis and Design, Business Intelligence and Data Mining, etc.

SKILLS

Programming

Python / Golang / C / C++ / C# / VBA / Base Script / HTML CSS JS / Node.JS / Next.JS / React

AI Tools

Pytroch / TensorFlow / scikit-learn / Cuda / LangChain / LLM chatbot

Database

PostgreSQL / MySQL / MongoDB / Milvus / Chroma / Faiss

DevOps

Git / Github Actions / Gitlab CI / Jenkins / Drone CI
Docker / Kubernetes / Podman
AWS / Azure / GCP
Gnuplot / Hadoop / Kafka / Spark / flyte
Cypress / Robot Framework

LICENSES & CERTIFICATIONS

AWS

- AWS Cloud Practitioner (September 2024)
- AWS Solution Architect Associate (September 2024)

Forage

- J.P.Morgan - Software Engineering Job Simulation (May 2024)
- AWS APAC - Solutions Architecture Job Simulation (May 2024)
- Electronic Arts - Software Engineering Job Simulation (April 2024)

Certiport

- IC3 Digital Literacy Master (December 2022)
- Microsoft Office Specialist Master (February 2019)

LANGUAGES

- Chinese - Native Speaker
- English - Professional Working

WORK EXPERIENCES

QA Engineering Intern

SWAG

Aug 2024 - now Taipei, Taiwan

During my internship at SWAG, I had the opportunity to participate in several cutting-edge quality assurance projects.

- Automated website testing project: Designed testing processes using ***Cypress*** and ***Robot Framework***, and built automation tools using ***Node.js***, ***Python***, and ***Bash scripting***.
- By participating in discussions to redesign the manual testing process, ***we improved testing time efficiency by 10%.***

AI Software Engineering Intern

Pegatron Corporation

May 2024 - now Taipei, Taiwan

During my internship at Pegatron Corporation, I had the opportunity to participate in several cutting-edge artificial intelligence projects.

- Improved LLM chatbot word embedding model's recall rate 5% by upgrading data pre-processing pipelines through introducing ***semantic chunking*** and ***chunk evaluation methods***, utilizing ***Milvus*** and ***MySQL databases***.
- I participated in a second sprint focused on enhancing the LLM chatbot. My primary responsibility was developing a data visualization tool. I utilized ***Langchain's Prompt Template to design a Named Entity Recognition system***, which improved the accuracy of user message interpretation and response generation. Additionally, I implemented data processing to convert information into JSON format for seamless frontend integration.
- Finally, we enhanced the agent's selection through the ***Mixture of Agents method***, resulting in a ***20%overall efficiency improvement***.

Research Assistant

National Pingtung University

Apr 2023 - now Pingtung, Taiwan

Research on ***TSN (Time-Sensitive Networking)*** Industrial IoT Multicast.
PROJECT1 - Online Multicast for Mixed Critical Applications

Founder

Tientao Series Technology Co., Ltd. (電到系列科技有公司)

Apr 2022 - Sep 2023 Kaohsiung, Taiwan

Through ***managing numerous client projects and small teams***, I've significantly enhanced my ***leadership***, ***project management***, ***communication***, and ***financial management skills***. This diverse experience has sharpened my ability to effectively handle various business challenges and collaborate across different domains.

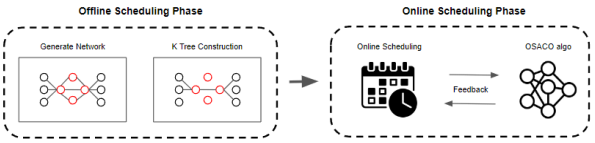
PROJECT EXPERIENCES

Online Multicast for Mixed Critical Applications

helgesander02/OMRSS

I researched ***Time-Sensitive Networking*** for Industrial IoT Multicast, implementing an experimental simulation system using ***OOP*** and ***multi-threading***. Through extensive literature review, I enhanced experiment quality, ultimately providing comprehensive data reports and research findings.

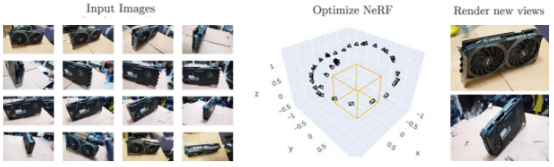
- **Contributions:**
  I contributed about 5,000 lines of code to this project. I used ***TDD*** to improve the ***extensibility***, ***readability***, and ***reduce the occurrence of dirty code***. I also used more efficient ***dynamic programming*** to accelerate the algorithm. Finally, I implemented automation through the use of ***shell*** and ***yaml*** to help experiments find the best parameters for the algorithm



Product Technology Demo of 3D Volume Rendering Applied to E-Commerce Platform

A system that uses ***NeRF*** and ***Instant-ngp*** to train a model that can ***generate 3D objects***, and then displays the results on my e-commerce website. The system is primarily designed in Python and CUDA.

- **Contributions:**
  I contributed about 1,000 lines of code to this project using ***PyTorch*** and ***CUDA***. I primarily used open source projects as a foundation for modification. ***Through studying open source and researching other papers, I helped the system to better display 3D structures.*** Finally, I wrote this system as an API and connected it to a ***Django*** website.

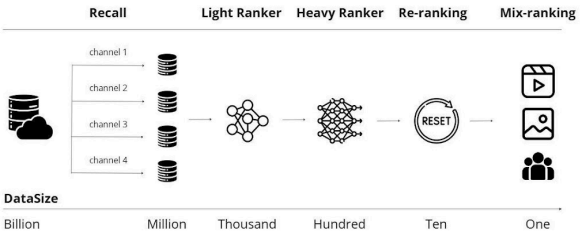


Recommendation System Experiment Notes

helgesander02/RSEN

An experiment of a ***mainstream recommendation system***, implementing the entire process and detailed interpretation of related algorithms.

- **Contributions:**
  As a key contribution, I've built a simplified recommendation system, totaling about 5000 lines of code. The system is modeled after Twitter's open-source recommendation algorithm and utilizes a multi-faceted approach, including ***(CF, Vector, Tree, Model) recall*** techniques and a ***2-Tower ranking*** architecture. Furthermore, I've addressed the ***common cold-start challenge*** and leveraged insights from the ***paper 'Methodologies for Improving Modern Industrial Recommender Systems'*** to optimize the system's performance.



Symbolic project that represent my potential

- **pytorch-cppcuda**
  helgesander02/pytorch-cppcuda
  Writing custom pytorch ***cpp+cuda*** kernel, applied on volume rendering (NeRF)

- **CESapi**
  helgesander02/CESapi
  This is a ***currency exchange service API*** designed using ***dependency injection*** and ***Gin***.

- **TKFruitMG**
  helgesander02/TKFruitMG
  An ***ERP*** system that uses ***customtkinter*** as the GUI base, with a ***postgreSQL*** database and ***reportlab***, and ***pymupdf-fitz*** design.

- **den_no_suke_LineBot**
  helgesander02/den_no_suke_LineBot
  A ***LineBot*** implementation on ***Render Cloud*** using ***crawling technology***, which can send price comparison messages and the latest tech news, and also connects to the OpenAI ChatGPT API.

- **Crawler2ITDV**
  helgesander02/Crawler2ITDV
  The ITDV tool primarily observes data such as time, quantity, and funds, and visualizes it in chart form. ITDV is designed using ***LINQ***, stored procedures, and ***Windows Forms***.

VOLUNTEER

Skids NGO

Sep 2024 - Sep 2024 Yilan, Taiwan

Assisted underprivileged children in rural areas by teaching advanced technologies in an engaging way. This enhanced my communication and adaptability, fostering collaboration in diverse environments.

Student Judicial Council

Apr 2022 - Sep 2023 Pingtung, Taiwan

Represented students in major legal meetings and chaired discussions on key issues. This role sharpened my leadership and communication skills in high-stakes situations.

Student Parliament

Apr 2021 - Sep 2022 Pingtung, Taiwan

Audited student budgets and organized a student-faculty symposium to improve dialogue. This experience strengthened my teamwork, negotiation, and organizational skills.