

GAN SHAO HONG

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PROFESSIONAL SUMMARY

- Machine Learning Engineer with 3+ years of experience in developing highly scalable AI models, implementing ML pipelines, and deploying models in cloud environments.
- Proficient in Python, TensorFlow, and PyTorch, with experience in distributed computing (GPU, AWS SageMaker) and data-driven decision-making.
- Passionate about delivering cutting-edge AI solutions that enhance business operations and user experience.

EDUCATION

Singapore Management University

BSc Information Systems (Business Analytics & Artificial Intelligence)

Aug 2019 – Apr 2023

Cum Laude (Distinction)

Related Modules: Deep Learning, Web Development, Social Analytics, Natural Language Communication

Ngee Ann Polytechnic

Diploma in Business Studies (International Business)

Apr 2014 – Mar 2017

Related Modules: Financial Management, Decision Support with Spreadsheets, Business Analytics

EXPERIENCE

UBS

AI Research Scientist

Jan 2025 – Present

- Apply Explainable AI (XAI) methods such as SHAP (SHapley Additive exPlanations) to improve interpretability and transparency in the legal litigation domain.

Software Engineer (full-stack)

Aug 2023 – Jan 2025

- Core developer for Performance Data Mart, a one-stop application that aggregates data from multiple source systems, which increases visibility in the data warehouse and reduces data gaps among stakeholders.
- Upgrade and update legacy codes used in Java Spring applications, oracle packages, and deployment pipelines in Azure and Gitlab.
- Enhanced user experience and redesigned application visuals by decoupling and creating reusable UI components.
- Integrate AI chatbot to allow stakeholders to retrieve in-house information easily.
- Developed Power BI dashboards extensively used by L2 and upper management stakeholders for compliance, successfully reducing SLA lead time by 10% to improve financial controller productivity.

Asurion

Intern – Technology (Data Science, AI & Machine Learning)

Jan 2023 – May 2023

- Planned and implemented the Object Detection/Segmentation workflow lifecycle, including labeling, training, and model deployment in AWS SageMaker.
- Upgrade and update maintenance codes from yolov5 model to yolov8 model and integrate non-max suppression (NMS) logic/layer in the model architecture through onnx model framework.
- Retrain and fine-tune the existing model by adding two additional classes for phone screen detection using Tensorflow.
- Create a web prototype to demonstrate live object detection inference from a webcam using TensorFlow.js.

Infineon Technologies

Machine Learning and Test Verification Intern

Aug 2022 – Jan 2023

- Explore state-of-the-art object detection architectures such as Faster RCNN, YOLO, and Single Shot Detector for object detection on sensor data.
- Created a customized labeling GUI to annotate radar frames against corresponding video frames, allowing reviewing of bounding boxes in each data sample and automatically identifying bounding box's coordinates.
- Benchmarked and significantly improved fps and mAP metrics for deploying models on Raspberry Pi devices.

Neuron Mobility

Data Engineering Intern

May 2022 – Aug 2022

- Pipeline migration from existing Jobber 'jobs' in EC2 to Argo workflows.
- Optimize codes using various implementations such as server-side cursors, object-oriented design patterns, and parallel processing with Python Celery to reduce time and space complexity.
- Work with time series and geospatial data and expose to AWS services such as Redshift, RDS, S3, EC2, EKS, and ECR.
- Develop a Flask application that integrates with the Slack application and allows business users to retrieve their queries from Redshift/RDS based on their inputs, thereby reducing the number of tickets, and automating the retrieval process.

Hewlett-Packard (HP)

Intelligent Robotic Process Automation and Analytics Developer

Jul 2021 – Jan 2022

- Spearheaded end-to-end project life cycle of activities including analysis, design, testing, and deployment phases of automation workflows.
- Automated dashboard reporting workflow and reduced time spent from 8 hours to 20 minutes using Microsoft Power Automate, and Office Scripts (vba).
- Member of Intelligent Automation Circle and involved in Data Analytics team sharing.

NOTABLE PROJECTS & HACKATHONS

UBS TechNOVA Hackathon – 2nd place

Nov 2024 – Nov 2024

- Developed an anomaly detection solution that analyzes conversations to identify potential compliance risks and flag instances of policy, regulatory, or legal violations. In talks on moving this to production.
- **Tech stacks:** LLMs and RAG technologies (Azure OpenAI, Azure Search), python Flask, and React web framework.

UBS AI Kettle

Oct 2024 – Nov 2024

- Kaggle-style competition on FX Trading prediction. (predicting transaction volumes of selected currency pairs)
- Developed an LSTM model that outperformed the baseline score using PyTorch.

Custom Faster-CNN Implementation

Nov 2022 – Dec 2022

- Re-created fcnn architecture using TensorFlow and trained a car detection model with CUDA.

SMU Ellipsis Tech Series 2022 sponsored by Goldman Sachs – Top 10 teams

Aug 2022 – Aug 2022

- Developed an integrated platform to encourage Fintech companies to invest in startups that align with their interest.
- Recommendation score is weighted based on key components such as collaborative filtering on similar users.
- **Tech stacks:** frontend (Vue, tailwind), backend (python Flask, SQLAlchemy, TensorFlow, sklearn), Kubernetes, AWS

Coursework: Social Analytics

Jan 2022 – Apr 2022

- Partnered with The Singapore Children's Society (SCS) to tackle the lack of engagement and social media presence using text and network analysis.
- **Tech stacks:** Python (pandas, selenium, sklearn, nltk, genism, networkx), AWS Rekognition, AWS Comprehend

SKILLS & INTERESTS

- **Programming Languages:** Python, Java, MySQL, PHP, JavaScript
- **Familiar Libraries / Frameworks:** Python (Flask, Fastapi, NumPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, PyTorch), JavaScript (VueJs, React), Java (Spring)
- **Trained in OS:** Windows, Linux
- **Work Programmes:** Azure, AWS, Figma, Tableau, PowerBI, Gitlab, Argo
- **Certificates:**
 - Microsoft Certified: Azure AI Fundamentals
 - Microsoft Certified: Azure Administrator Associate
 - AWS Certified Solutions Architect – Associate
 - Deep Learning Specialization from DeepLearning.AI
 - Oracle Certified Foundations Associate (Java)
 - SAS Certified Specialist: Machine Learning Using SAS Viya 3.5
 - CodeIT Advanced: Advanced Data Structures & Algorithms