Tse Man Kit Michael

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SUMMARY

A quick learner, and explorer, with a Science and Engineering background, who has a great interest in new technology that may change the world. I am interested in working for a fast-growing and challenging company that will encourage my growth and development, so as to be the most efficient and effective employee I can possibly be.

WORK EXPERIENCE

Cathay Pacific, Hong Kong

Solution Lead   Dec 2024 - Present

– Managed data or ML projects or applications which involved data ingestions, mlOps towards different engineering teams or customers. Collaborated with data scientists to ensure the data and AI models are scalable, maintainable, and secure.

– Leaded the Data Lake House (DLH) product development, a data platform that provides a unified data storage and processing solution for structured, semi-structured, and unstructured data, enabling efficient data management and analytics. It is used by various teams including data scientists, data engineers, and business analysts.

– Designed and implemented data governance policies and best practices, ensuring data security, compliance with industry standards, and alignment with business objectives.

– Collaborated with cross-functional teams to define and implement data governance policies and best practices, ensuring data security and compliance with industry standards.

– Lead on the feature store development to provide a centralized dataset for data scientists for training and inference of machine learning models. It is also integrated to vector database for vector search.

– Leaded on the team enhancement, including organized team training, knowledge sharing sessions.

– Leaded on the poc projects for streaming analysis, vector database and team infrastructure revamping.

– Acted as a bridge between business and technical teams, translating requirements between project managers and software engineers.

– Skills: Data Lake House (DLH) strategy · Feature Store architecture · Vector database / semantic search enablement · Enterprise data governance & compliance · Product roadmap & prioritization · Platform & MLOps enablement · Cross-functional stakeholder alignment · Change & risk management

Solution Analyst   Jan 2023 - Dec 2024

– Integrated data ingestion pipeline into the existing data lake in AWS cloud, handling data explorations and resolving technical issues among various teams, including data source, data governance, and data scientist teams.

– Reviewed data scientists' data and AI models for scalability, maintainability, and security, and deployed them to cloud.

– Contributed to the team's IT development practice, e.g. git branch management, and the CI/CD pipeline.

– Managed end to end ML project / applications.

– Skills: Cloud Applications · Data Streaming · Data Modeling · pyspark · Airflow · AWS CDK · AWS · ELK

Varadise, Hong Kong

Assistance Manager, Scrum Master   Oct 2022 - Jan 2023

Senior AI Robotic Engineer, Scrum Master   Sep 2021 - Oct 2022

– Managed a cross-functional team of 11 professionals, fostering collaboration between technicians, project managers, and senior software engineers, while working closely with business development, operations, and marketing teams.

– Developed and scaled a data pipeline handling 9 million messages daily from 2000 data sources and expanded data connectors for various sources and sinks, enhancing third-party integration.

– Implemented Agile Methodologies and maintained scrum practices while collaborating with stakeholders to standardize data formats including time series and geometric data.

– Designed data analysis tools for addressing the construction industry needs, and acted as a bridge between business and technical teams, translating requirements between project managers and software engineers.

– Supervised machine learning projects in computer vision as well as overseeing the development of MLOps and DevOps.

– Skills: Scrum · Agile Methodologies · Continuous Improvement · Business Analysis · Process Improvement · Apache Kafka · MLOps · DevOps · Robot Operating System (ROS) · Python · Go-lang · Leadership · Problem Solving · Cooperation

AI Robotic Engineer   Mar 2021 - Sep 2021

– Planned IoT-Hub, a data pipeline for IoT devices on a cloud based container infrastructure, including a migration plan for existing devices, and a DB schema design from scratch.

– Developed IoT-Hub with multi-data source connectors, AWS RDS postgres with timeseries data optimization and tableau.

– Skills: SQL · Azure Databricks · Project Planning · Tableau · AWS RDS · Apache Kafka · Time Series Analysis · REST APIs · Mqtt · Data Pipelines · Machine Learning · Python

DreamsAi, Hong Kong

Data Engineer   Jul 2020 - Mar 2021

– Developed a card detection CNN model, which has almost reached the human baseline.

– Developed an email classification LSTM model, with a semi-autoML cycle that has labeling and auto-retrain features.

– Been responsible for web scraping, data migration, server infrastructure, and networking setup.

– Managed the internal knowledge base including versioning, categorizing, and creating a welcome kit for newcomers.

– Skills: Knowledge Management · Data Migration · Data Pipelines · Networking · PyTorch · Machine Learning · Problem Solving · Python

PTC International Limited, Hong Kong

Technical Support Engineer   Apr 2017 - Jul 2020

– Provided technical support, demonstration, documentation, and troubleshooting.

– Customized data-loggers with alarm function or dashboard etc. written in Python (Raspberry Pi, Arduino, or any other programmable data-logger).Provided technical support, demonstration, documentation, and troubleshooting.

– Skills: Raspberry Pi · Arduino · Problem Solving · Python

Earth Products China Limited, Hong Kong

Technical Engineer — Sep 2015 - Apr 2017

– Provided technical support, demonstration, documentation, and troubleshooting.
– Responsible for developing new calibration methods for HOKLAS certification which involved experimental studies and data analysis.

CERTIFICATIONS

AWS Certified Solutions Architect – Associate — Nov 2024

Validated ability to design and deploy scalable, highly available, and fault-tolerant systems on AWS.

Microsoft Certified: Azure Data Engineer Associate — May 2024

Quantified the ability in integrating, transforming, and consolidating data from various structured, unstructured, and streaming data systems into a suitable schema for building analytics solutions.

Microsoft Certified: Azure AI Engineer Associate — Feb 2024

Quantified the ability to implement and monitor AI solutions, including but not limited to cognitive services, machine learning, and knowledge mining.

Solana Web3 Development Course - Xccelerate — Aug 2023

A 10-week course about web3 application development on Solana chain.

Goethe-Zertifikat B1 — Goethe-Institut e.V. — Dec 2021

German language proficiency certificate.

Machine Learning Engineering for Production Specialization — Deeplearning.ai — Jun 2021

Learnt how to deploy ML in production, such as data lifecycle, model pipeline and deployment.

IBM AI Engineering Specialization — IBM — Jun 2020

Learnt to use SciPy, ScikitLearn, apache spark, Keras, PyTorch.

IBM Data Science Specialization — IBM — Mar 2020

Understood the fundamental theories of data science. Learnt to use the IBM cloud, cloud programming, SQL, pandas library, geojson data and beautiful soup package. Link to the capstone project: [Analysis of population and Venue distribution in Hong Kong](#).

Deep Learning Specialization — Deeplearning.ai — Feb 2020

Practiced on CV, NLP, and Sequence Prediction using TensorFlow. Learnt to the concepts of CNN, RNN/LSTM, dropout layer, batch normalization, learning rate adjustment etc.

Introduction to TensorFlow for AI, ML, and DL Certificate — Deeplearning.ai — Nov 2019

Understood and Practiced object detection, face recognition, neural style transfer, language translation, speech-to-text translation, ResNet, Inception, R-CNN, YOLO, CTC, optimizing metrics, dataset distribution strategy, IoU, Bleu score.

PROJECTS

ASD Detection App Jan 2025 - Present

An application that detect signs of autism spectrum disorder (ASD) in children based on their interactions with their parents and caregivers at home or in clinical settings.

Through AI glass, the app uses computer vision and natural language processing to analyze the child's behavior and provide feedback to parents and caregivers.

The project is in collaboration with medical professionals and researchers and tested with real world data.

Skills: Computer Vision · Natural Language Processing · Mobile Applications · Cloud Applications

ChatGPT Teaching Assistant Jul 2023 - Present

A cloud based RAG LLM chatbot using ChatGPT model to teach students physics based on the lecture notes, videos, and pastpapers. It will only answer questions within the knowledge base and every answer will include referencing.

Skills: Microsoft Azure · ChatGPT · langchain · Large Language Models (LLM) · Cloud Applications

Tx Aug 2023 - Present

A Web3 project which provide a trustworthy, transparent and sustainable resale ticketing system with the use of NFT and encrypted on chain data.

https://txticketing.com

Skills: Solana blockchain · NFT · Rust · Node.js · Cloud Applications

Analysis of population and Venue distribution in Hong Kong - IBM 2020

Used K-means clustering to analyze the relationship between population and venue distribution in HK.

https://github.com/michaeltmk/IBM-Data-Science-Capstone-Project

OCR (captchas breaking) 2019 - 2020

Demonstrated on computer vision aim with CNN, data argumentation techniques, written in Tensorflow.

Trained on captchas collected in web and a captchas simulator.

https://github.com/michaeltmk/Captcha_cracker

EDUCATION

Apr 2020 - Apr 2021	MBA at **Quantic School of Business and Technology**
Sep 2016 - Jan 2019	MSc(Mechanical Engineering) at **The Hong Kong Polytechnic University**
Sep 2012 - Jul 2015	BSc(Maths. & Phys.) at **The University of Hong Kong**

Skills

Programming Languages	Python, GoLang, JavaScript
Data & software Technical Skills	SciPy, Matlab, kafka, MQTT, spark, SQL, NoSQL, Elasticsearch, Tableau, Data Pipelines, Time Series Analysis, DevOps, databricks, NGINX
ML Technical Skills	ScikitLearn, TensorFlow, Keras, Pytorch, MLOps
Cloud Computing Technical Skills	docker, k8s, AWS, Microsoft Azure, GCP
Hardware Technical Skills	Raspberry Pi, Arduino, LoRa, sigfox, ROS, Gazebo
Soft Skills	Scrum · Agile Methodologies · Continuous Improvement · Business Analysis · Process Improvement · Cooperation · Leadership · Project Planning · Problem Solving · Knowledge Management
Languages	Cantonese(native), English(fluent), Mandarin(fluent), German(intermediate)