

Loke FU (He/Him/His)

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SUMMARY

Dynamic and passionate AI Scientist with about 2 years of combined experience in academic research and industry applications. Experience in Machine Learning algorithms, Generative AI, and Large Language Models (LLM).

EDUCATION

The University of Hong Kong (HKU), Hong Kong Sep 2022 - Jan 2024

Master of Science in Artificial Intelligence

Research Interests: Diffusion Models, Generative AI, Large Language Models.

Selected Courses: Deep Learning, Data Mining and Text Analytics, Machine Learning in Trading.

The University of Hong Kong (HKU), Hong Kong Sep 2018 - Jul 2022

Bachelor of Science in Decision Analytics

Selected Courses: Multivariable Calculus, Linear Algebra, Probability and Statistics, Statistical Machine

Learning, Big Data Analytics, Optimization, Database Management Systems, Data Visualization.

Academic Award: HKU Foundation Entrance Scholarships (2018 - 2022)

Summer Exchange: R programming, **Harvard University**, Massachusetts, U.S. Jun 2019 - Aug 2019

WORKING EXPERIENCE

The Hong Kong Polytechnic University (PolyU), Centre for Advances in Reliability and Safety Limited, Hong Kong

Data Scientist Feb 2024 - Present

- Developed and implemented of AI and machine learning algorithms to address reliability and safety issues, utilizing predictive modeling techniques such as regression and SVM, classification techniques including k-means clustering and PCA, and deep learning networks like MLP and CNN.
- Collaborated on software development projects with senior engineers for industrial applications.
- Conducted studies on the latest industry and academic developments in machine learning-based fault diagnosis.
- Awarded a Gold Medal at the 49th International Exhibition of Inventions Geneva for Cable Prognosis.

The University of Hong Kong (HKU), Department of Statistics and Actuarial Science, Hong Kong

Research Assistant, Master's Researcher Sep 2022 - Jan 2024

- Developed a new subject-driven Text-to-Image generation framework - *DreamMoRe: Improving DreamBooth with Multi-Modal Loss and Text Rewriting*.
- (Text Rewrite) Leveraged Large Language Models or Large Multi-Modal Models in enriching image caption, to upgrade model's language understanding in detailed and complex text.
- (Image Augmentation) Developed advanced image augmentation techniques adapting segmentation models and diffusion models, to boost model's generalization and robustness.
- (Prompt Fidelity Loss) Introduced additional language semantic control through multi-modal models, to strength model's language understanding in both prompt fidelity and subject fidelity.
- Achieved higher scores than DreamBooth in quantitative CLIP-based metrics and qualitative human assessment.

Johnson Controls, YORK (CHINA), China

Business Analyst, Intern Jun 2022 - Aug 2022

- Conducted market research and analyzed data to identify trends and opportunities in the market.
- Assisted in the development of marketing strategies and business plans for new product launches.
- Developed skills in data analysis, project management, presentation and communication.

The University of Hong Kong (HKU), Department of Statistics and Actuarial Science, Hong Kong

Student Research Assistant, Undergraduate Researcher Jan 2022 - May 2022

- Developed a quantitative stock trading strategy on Hong Kong stock market with Machine Learning.
- Utilized technical indicators like Relative Strength Index and benchmark stocks like Hang Seng Index to predict Hong Kong stock prices using machine learning algorithms like MLP, RNN, LSTM.
- Conducted sentiment analysis of financial news with a large pre-trained language model.
- Designed a combined trading strategy; Achieve higher ROI than B&H benchmark through backtesting.

SKILLS & LANGUAGES

- Programming Languages: Python, R; Machine Learning (Deep Learning): Pytorch, Hugging Face, TensorFlow, Scikit-learn, Pandas; Cloud Platforms: Google Cloud Platform including BigQuery, AutoML, Vertex AI; Web Development: HTML, CSS, JavaScript, Bootstrap; Data Analysis: SQL, Power BI; Version Control: Git, GitHub.
- Languages: English (Proficient), Mandarin (Native), Cantonese (Conversational).