

LANCE NGAN HAN KIONG

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PROFESSIONAL SUMMARY

As a seasoned educator and process engineer, I have a unique blend of experience in implementing innovative educational strategies and optimizing technical processes. With a proven track record of enhancing student engagement and achieving high satisfaction scores, as well as successfully managing technology transfers and improving manufacturing yields, I bring strong analytical and problem-solving skills to the table. My passion for data-driven decision-making has led me to pursue a career in data science, where I aim to leverage my expertise in educational and engineering domains to derive meaningful insights and drive impactful solutions.

SKILLS

Exploratory Data Analysis	Python	SKLearn	Problem solving
Data Visualisation	Pandas	SQL	Critical thinking
Statistical Modeling	Visual Studio Code	Tableau	Communication
Machine Learning	Jupyter Notebook	Excel	Teamwork
Deep Learning			Decision-making
Time Series			

DATA SCIENCE PROJECTS

[[HTTPS://LANCE41.GITHUB.IO/DATA_SCIENCE_PORTFOLIO.GITHUB.IO/](https://lance41.github.io/data_science_portfolio.github.io/)]

Tennis Serve Prediction and Optimization

Created convolutional neural network models to predict the classes of tennis serves and did a pose estimation and analysis using MoveNet model.

Skills and Tools: Pandas | Machine Learning | Computer Vision | MoveNet | Statistical Analysis

Chronic Disease Prediction and Food Recommender System

Created a model to predict the risk of chronic diseases based on behavioural habits. Implemented a dish recommender system based on the risk of chronic diseases.

Skills and Tools: Pandas | Beautiful Soup | Selenium | Matplotlib | Seaborn | Logistic Regression | Random Forest Classifier | Support Vector Classifier | Gradient Boosting Classifier | XGBoost | PCA | ADASYN | Random Under Sampler | GridSearch | Pipeline | Recommender System | Streamlit

Depression Prediction

Used APIs to scrape two subreddits to train a model to predict the risk of depression. The analysis identified key words and themes to understand the classes.

Pandas | NLP | Beautiful Soup | Logistic Regression | Multinomial Bayes | TF-IDF Vectorizer

House Price Prediction

Created a model to predict house prices based on 80 different features.

Pandas | Linear Regression | Matplotlib | Seaborn | Regularisation | Standard Scaler | GridSearch | Column Transformer | Streamlit

PROFESSIONAL EXPERIENCE

Ministry of Education/ Nanyang Girls' High School, Singapore

Jan 2014 – Dec 2023

General Education Officer 4

- Implemented student-centered pedagogies such as concept-based curriculum instruction with 95% positive feedback from students, resulting in improved student engagement and learning outcomes.
- Utilised a variety of blended learning tools and techniques to create interactive and dynamic learning experiences, resulting in an average student satisfaction score of 8/10.
- Developed and maintained student databases, tracking academic progress and attendance, and utilizing data to tailor instructional strategies.
- Analyzed student performance data to identify trends, strengths, and areas for improvement, resulting in a 15% increase in overall academic performance.
- Coordinated a team of 40 teachers as the level coordinator over a period of 8 years to plan, design and implement instructional programme as well as design teaching resources in Chemistry and Lower Secondary Science.

Ministry of Education, Singapore

General Education Officer 1A1

Jul 2010 – Dec 2013

General Education Officer 1.2 (Local Contract)

Jan 2009 – Jul 2009

STMicroelectronics Pte Ltd

Jun 2008 – Dec 2008

Process Engineer (Diffusion)

- Managed process transfers of sub-quarter or sub-micron advanced technologies from R&D to manufacturing, resulting in a 20% improvement in production efficiency.
- Installed and calibrated multiple new pieces of equipment, reducing setup time by 15% and ensuring adherence to process specifications
- Conducted multiple system performance evaluations, achieving a 95% accuracy rate in maintaining critical process parameters.
- Reduced process deviations by 25% and decreased equipment downtime by 30% through effective troubleshooting and maintenance.
- Improved manufacturing yield by 10% and maintained product quality above 98% through continuous process optimization and quality control measures.

Sensfab Pte Ltd

Oct 2007 – May 2008

Product Engineer

EDUCATION

General Assembly, Singapore

Feb to May 2024

Data Science Immersive

Skills acquired: Machine Learning (Linear, Logistic Regression, k-Nearest Neighbour, SVM, Random Forest, k-Means, DbScan, PCA), Deep Learning (Neural Networks, NLP, Recommendation Systems), Visualisation (Tableau, Matplotlib, Seaborn), Time Series (Arima, Sarima)

National Institute of Education, Singapore

Graduated 2010

Postgraduate Diploma in Education with Credit

Curriculum Studies: Chemistry and Mathematics

Nanyang Technological University, Singapore

Graduated 2007

Bachelor of Engineering (Materials Engineering)