

ABOUT ME

Experienced ML engineer skilled in prototyping, building, and deploying **impactful AI-driven solutions** for organizations. Passionate about technology both professionally and personally. Awarded the prestigious Public Service Commission (PSC) Scholarship by the Singapore government in 2015.

WORK EXPERIENCE

JTC CORPORATION, AI Engineer, Smart District Division — Singapore Jul 2021 – Present
Government entity for masterplanning clean, green and smart industrial estates for enterprise usage (>\$2B annual revenue)

Open Digital Platform: Rapid deployment of tech solutions using microservice architecture

- Designed and prototyped an interactive dashboard-map using React for officers to access tenancy and geospatial data on JTC's industrial estates for planning, marketing and operations purposes
- Deployed a data retrieval chatbot with Llama 2 for users to retrieve and visualize estate data from backend MongoDB and MySQL databases using natural language queries, on a custom, interactive GUI, enabling end-to-end data retrieval for hundreds of users within seconds
- Developed framework and communications pipeline for robotics traffic management, monitoring, control and communications via AMQP and API management for integration
- Deployed system for live communication between autonomous robots and building infrastructure/assets, supporting fully autonomous robotic navigation within JTC Summit, facilitating hundreds of food delivery orders across multiple autonomous robotics vendors
- Set up an on-premises GPU server with NVIDIA GPU time-slicing in Kubernetes (k8s), creating an environment for deploying isolated, containerized and GPU-accelerated ML applications

Technologies used: k8s, Docker, PyTorch, YOLOv8, Azure, RabbitMQ, React, Next, Node.js, Nginx, Gitlab CI

INTERCONTINENTAL EXCHANGE, Analyst, Data Analytics Team — Atlanta, GA May 2020 – Dec 2020
Global finance firm operating financial exchanges (NYSE), clearing houses, and platforms for mortgage technology and market data services (>\$9B annual revenue)

- Implemented an RPA framework to conduct automated data cleaning and dataset merging processes for incumbent and incoming datasets used by the finance, sales and marketing teams, reducing time spent on data processing work by 70%
- Developed NLP techniques for matching identical corporate entities and products with different spellings and nomenclature across multiple data sources and datasets
- Deployed an interactive dashboard on internal Linux servers using Plotly Dash, serving dozens of end-users in the finance, sales and marketing teams to access our algorithms through a simple, intuitive GUI

Technologies used: PyTorch, TensorFlow, Plotly, Linux, Heroku

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY Aug 2019 – May 2021
Master of Science in **Analytics**, and **Computer Science** (Machine Learning) GPA: 3.80 / 4.00
Graduate Teaching Assistant for computing and statistics courses

NATIONAL UNIVERSITY OF SINGAPORE Aug 2015 – May 2019
Bachelor of Engineering in **Industrial and Systems Engineering** (Dean's List) GPA: 4.62 / 5.00
Minor in **Statistics** and **Computer Science**

OTHER PROJECTS

Automated Tools for Interior Designers – SpaceJot, Singapore Dec 2023 – Present
Consultant for a tech startup aimed at automating the design pipeline for interior designers

- Developed multi-modal model pipelines using Stable Diffusion for interior design applications, enabling tasks like automated room restyling, room area segmentation, furniture replacement and colour palette substitution with input images, with over a hundred daily users
- Deployed multi-modal model pipelines on HuggingFace Inference Endpoints and AWS, implementing a custom scaling strategy to optimise long-term running costs
- Hosted a production-scale website on Vercel with integration to a PlanetScale database, providing access to in-house model pipelines to over dozens of clients

SKILLS

Programming Stack: Python, R, C, C++, Java, JavaScript, SQL, Tableau, D3, PyTorch, Spark, Docker, AWS, k8s
Domains: LLMs, Generative AI, NL Processing, Computer Vision, Cloud, Container Orchestration, Networking