

# YEE Wei Liang

Data Science | End-to-End Design to Production| Computer Vision

• (65) 9795 6012 • [weiliang.yee@gmail.com](mailto:weiliang.yee@gmail.com) • Singaporean

 [weiliangyee.dev](https://github.com/yeewliang)  [www.linkedin.com/in/wei-liang-yee](https://www.linkedin.com/in/wei-liang-yee)  [github.com/yeewliang](https://github.com/yeewliang)

## EXECUTIVE SUMMARY

Results-oriented Full-Stack Data Scientist specializing in **Process Excellence** and **Manufacturing Optimization**. Currently driving Process initiatives using AI at Infineon, I bridge the gap between business strategy and technical execution. I possess extensive experience transforming abstract requirements into deployed, high-impact AI/ML solutions. Proven ability to lead **cross-functional teams** and deliver **automated workflows** that enhance operational efficiency in complex corporate environments.

### Key Achievements:

- **Marketing Forecast supported by Machine Learning:** Transformed a rigid, quarterly planning cycle into a dynamic, automated demand forecasting system. By integrating external market indicators with stakeholder feedback, the forecast has enabled real-time scenario planning and provided accurate 'unconstrained demand' visibility in a volatile market.
- **Image Processing (Color Classification), OpenCV and TensorFlow:** Awarded Grade A-, Test Kits Results Classification project is part of my Master of Technology Capstone requirements. Using conventional computer vision techniques and deep learning models, we have built a color constancy model (inspired by Auto Encoder) to be able to work under various ambient lighting conditions.

## PROFESSIONAL EXPERIENCE

### Infineon Technologies Asia Pacific Pte. Ltd.

Jun 2022 – Present

#### Staff Analyst Data Scientist

- Project Manager for cross-functional Agile business projects in Business Process, Finance and Export Control domain, managing the full lifecycle sprints from design to deployment
- Translation of business requirements into Lo-Fi and Hi-Fi prototypes, bridging the gap between stakeholders and development teams
- Engineered production-grade full-stack web applications using React.JS (Vite) and Python backend, integrating the Infineon Digital Design System (CSS) for brand-consistent user experience
- Technical member of ML-assisted Marketing Forecasting project that transformed rigid, quarterly, planning cycle into dynamic, market-driven demand forecasting.
- Pilot member of Infineon GitHub Copilot Ambassador Program, driving developer productivity across the organization

#### AI Staff Engineer – Test Singapore Backend Segmented Operations

- Project Manager for Optical Character Recognition project to salvage overkill in marking text process
- Architected Python ETL pipelines using Selenium to scrape and process real-time alarm statistics from Final Test equipment
- Designed Tableau Dashboard with equipment data to provide Final Test engineers and technicians clear overview for preventive maintenance tasks
- Conducted internal workshops on Predictive Maintenance for ~50 employees, democratizing Machine Learning knowledge within the operational teams
- Evaluate and appraise business cases for AI solutions to establish value and strategic fit

### PSA Corporation Ltd.

Jun 2018 – May 2022

#### Senior Engineer - Smart System Solutions Department (Smart Machine-Automated Quay Crane)

- Managed Automated Quay Crane project by ensuring resources availability and timeline adherence
- Performed tasks central to projects tendering, including specification write-up and technical scoring
- Developed Python scripts to ETL month-long crane data of 650GB for useful insights on operators benchmarking
- Automated productivity reporting in Excel VBA script, slashing time taken from 1 day to 3 seconds
- Developed reusable Extended Memobus Protocol (Yaskawa PLC) communication driver in Python for vendors applications, eliminating unnecessary costs for middleware purchase

**ATS Applied Tech Systems Pte. Ltd.**

May 2017 – Jun 2018

*MOM (Manufacturing Operations Management) Specialist*

- Taking lead and providing directions to teams in manufacturing shopfloor development projects
- Program various toolings (inspection, dispensing etc.) for shopfloor machines
- Highlights: Choreographed and programmed synchronized robot dancing for facility opening

**NDI Automation Pte. Ltd**

Jul 2012 – April 2017

*Assistant Manager*

- Developed Crane Monitoring System for major ports in the region to conduct fault analysis and to shorten turnaround time during crane breakdowns, e.g. 65 Cranes for PSA Singapore
- Developed Remote Building Management System to monitor essential parameters for Trane chiller
- Developed Yard Management System for SH Cogent Logistics in SkyDepot and Jurong Island
- Developed Power Monitoring System for Honeywell Power Meters in Singapore National Stadium
- Developed Rain Monitoring System to maximize productivity for Cement Unloader in Jurong Port

**EDUCATION****Institute of Systems Science, National University of Singapore**

Jan 2021 – Dec 2022

- Master of Technology in Intelligent Systems
  - Intelligent Reasoning Systems, Pattern Recognition Systems, Intelligent Sensing Systems, Intelligent Robotic Systems
  - Capstone: Enhanced Digital Reading App (Color Recognition Engine for Urine Test Kits)

**National University of Singapore**

Aug 2008 – May 2012

- Bachelor of Engineering Computer Engineering
  - Final Year Project: Activity-Driven Video Summarization (MATLAB)

**PAST ACADEMIC PROJECTS**

- **HDB Prediction and Recommender** [<https://github.com/IRS-ISSW/HDBResalePriceRecommender>]
  - Role: Web Scraping, Model Selection and Evaluation
  - Tool to assist prospective HDB resale buyers in resale flat search and price negotiation. The system also integrated a Recommender System to propose alternative search results.
- **Rapid Test Kit Quantitative Interpretation** [[https://github.com/lovintoh88sp/ITSS\\_IIW](https://github.com/lovintoh88sp/ITSS_IIW)]
  - Role: Transfer Learning on Mask R-CNN (Backbone: ResNet101)
  - System can provide quantitative results of rapid test kits, e.g. COVID-19 Antigen Rapid Test (ART).
- **Urban Hydroponic Farming using Robots** [<https://www.youtube.com/watch?v=obhtZlQ5tdY>]
  - Role: Developed a heuristic method for the assignment of the harvesting tasks to each of the TB3 in multi-TB3 co-working environment, based on availability of the TB3.
  - Gazebo simulation of TurtleBot3 (TB3) equipped with the OpenManipulator (OM) robotic arm for harvesting of mature plants.
- **Enhanced Digital Reading App**
  - Role: Transfer Learning on YOLOv7, Data labelling and annotations
  - Built a colour constancy model (94.3% micro F1-score) using YOLOv7 and Auto Encoders to interpret rapid test kits under varying lighting conditions.

**SKILLS AND LANGUAGES**

<b>Technical Stack</b>	<ul style="list-style-type: none"> <li>▪ <b>Languages:</b> Python, SQL, C++, C, PHP, Excel VBA</li> <li>▪ <b>Frontend &amp; Web:</b> ReactJS, Vite, HTML/CSS, Figma</li> <li>▪ <b>Data Science &amp; AI:</b> TensorFlow, OpenCV, Tableau, Dataiku, ROS</li> <li>▪ <b>DevOps &amp; Tools:</b> Openshift Cloud Platform, Docker, Git, GitHub Copilot</li> </ul>
<b>Certification</b>	<ul style="list-style-type: none"> <li>▪ Project Management (IPMA Level D), Certified ScrumMaster</li> <li>▪ UX Design</li> </ul>
<b>Languages</b>	<ul style="list-style-type: none"> <li>▪ English, Chinese, Malay, Basic German</li> </ul>