Lim Ek Hong | https://sg.linkedin.com/in/ekhong-lim | https://krenova.github.io/krenova-portfolio

Experienced Data Science and Technology consultant helping organizations navigate technology, AI and advanced analytics by bridging the gap between deep technical concepts and executive-level strategy. My approach combines a consulting mindset with a focus on building scalable data infrastructure, to ensure teams are equipped to solve today's problems while preparing for tomorrow's shifts.

Technical Skills and Experience

Cloud Platforms:	Azure, AWS and GCP
Analytics:	R, Python, Julia, PySpark, C++, TensorFlow, Theano, Matlab
GenAI:	Vercel AI SDK, Langchain, Langgraph, Haystack
Optimization:	Gurobi, CPLEX
Database:	Weaviate, MySQL, PostgreSQL, SAP HANA, BigQuery, Hive, MongoDB
Visualization:	Superset, Metabase, QlikView, QlikSense and Tableau
WebDev:	Java Spring Boot + React Bootstrap, FastAPI, Django + Vite React,

Work Experience

Adjunct Assistant Professor, NUS Business School, Department of Operations and Analytics ***Jul 26 – Present***

- **Undergraduate Instruction**: Deliver the Predictive Analytics in Business curriculum to undergraduate students, bridging data science methodologies with practical commercial perspective.
- **Faculty AI Consultation**: Serve as an internal AI advisor to business school educators, guiding faculty on the use of emerging AI tools for their productivity and to enhance their curriculums.

Aspiring Entrepreneur ***Jan 26 - Present***

Seeking to capitalize on the collapsed barriers to software entry brought about by GenAI to incubate lean, scalable ventures. By merging data science expertise with full-stack capabilities, I hope to leverage on agentic AI to engineer innovative solutions to solve commercial and non-commercial problems that were previously too costly or difficult to build.

Professional Development - Full-Stack Web Dev by Generation Singapore ***Mar 26 – Jul 26***

Acquiring formal, structured training in software development and modern web frameworks to bridge the gap between data science and production-grade applications.

Manager, Data and Analytics (Data Science Team Lead), SSONRA – IQPC Subsidiary ***Dec 23 – Dec 25***

Strategic Process Overhaul

- **Structured** the product and tech team by crafting defined roles and responsibilities and adopting established project management frameworks to manage activities.
- **Transformed** the engineering culture from reactive to proactive by establishing a 5-year technical roadmap and empowering the team to anticipate business needs without waiting for directions.

Business Optimization and Innovation Initiatives

- **Modelling and Data Quality**: Overhauled the team's econometric and machine learning models and data collection processes, resolving prior customer concerns around data integrity and renewing confidence in the sales and management teams.
- **Enhanced Business Intelligence**: Implemented open-source BI tools such as Superset and Metabase to track key business metrics, user activities, and sales performance. This provided actionable insights that supported the sales team's customer retention and acquisition strategies.
- **Automation & Scalability**: Built automation and GenAI-enabled workflows to reduce manual processes and support >20% YoY revenue growth without proportional headcount increase.
- **Future-Proofing Data Operations**: Developed data processing pipelines and infrastructure to support predictive modelling and future analytics use cases
- **Future-Proof Team Skillsets**: Mentored a small data science team on GenAI, automation, and analytics practices.

Industry Project Advisor - Institute of Operations Research and Analytics (IORA) ***May 24 – Dec 25***

- Engaged industry partners and translated business requirements into technical project scopes and prototype solutions to help the institute secure funding.

- Built GenAI proof-of-concepts for industry use cases, including a GenAI WhatsApp webhook tool to automate customer replies and reduce lost sales.

PhD Student - Institute of Operations Research and Analytics (IORA) ***Aug 17 – Feb 24***

- Specialization: Using information acquisition frameworks and machine learning models to solve industrial problems.
- Key works:
  1. Manipulation of Bias-Variance trade-offs to achieve accurate predictions (ssrn.4857275)
  2. Solving optimal sequence of tests using Bayesian Dynamic Programming (ssrn.5118887).
  3. A novel scalable GLM contextual bandit model (NUS Scholar Repository: Y1lbxN5R)

Project Manager and Analytics Lead for 2nd project with Kulicke and Soffa (KNS) - IORA ***May 23 – Dec 23***

- **SGD 730,000 Project Value**: This project was secured due to the success of prior project delivery, sales pitch and strategic alignment of IORA's capabilities to KNS's goals.
- **Project Rescue and Turnaround**: Stepped in to help lead the project after it was struggling under the new team and managed to help steer it back on track.
- **Project Achievements**: Conceptualized and led the development of a knowledge management software using clustering algorithms to identify, store, and report manufacturing defects.
- **Team Management and Mentorship**: Set team members' KPIs and mentored the team on advanced analytics theory and concepts, paying special attention to the undergraduate and post-graduate research assistants.
- **Stakeholder Alignment and Innovation**: Led engagements with key stakeholders to redefine and clarify project goals. This culminated in the conceptualization of an innovative knowledge management and machine learning software designed to automatically identify, store, and report manufacturing defects, creating a high-value asset for the client.
- **Technical and Process Leadership**: Introduced coding discipline and documentation practices to improve code maintainability and facilitate knowledge transfer within and across teams.

Analytics Lead for Project with KNS - (IORA) ***Aug 18 – Jul 22***

- **SGD350,000 Project Value:** Helped position IORA's resources and capabilities to convince KNS's senior management to collaborate with NUS for their digital transformation initiatives.
- **Regular C-suite engagements**: Presented technical outcomes to senior stakeholders and supported company's global conference sharing with client leadership: https://iora.nus.edu.sg/kulicke-soffa/
- **Team Management**: Led a team of 3–4 researchers to deliver analytics consultation, training, and technical solutions for a manufacturing client.
- **Project Achievements**: Conceptualized and steered team to pivot towards more promising projects:
  1. Developed optimization and machine learning models that contributed to an estimated 5%–15% cost reduction.
  2. Designed and deployed predictive anomaly detection and diagnostic tools to improve defect detection beyond traditional Statistical Process Control (SPC) methods

Senior Data Scientist, NCS ***Aug 15 – Aug 17***

- Developed data models, Hive queries, R scripts, and QlikView dashboards for DBS's Trade Risk Monitoring Solution.
- Co-developed a PySpark-based anomaly detection application for flight data monitoring.
- Built analytics software and reusable libraries for client projects and tender proposals.
- Actively participated in presales and tender activities, helping to understand customers' objectives, assess their capabilities and propose customized advanced analytics strategies to bridge the gaps.

Product Development (Manager), ACRA ***Aug 12 – Sep 15***
Graduate Mechanical Engineer Analyst, Dyson Operations Pte Ltd ***Nov 11 – Jul 12***

Graduate Courses/Certifications

Specialist Diploma in Business Analytics, Temasek Polytechnic	Aug 15
CFA Level II	Jun 15

Education

PhD, Operations Research and Analytics, National University of Singapore	Feb 24
MSc, Statistics, National University of Singapore	Jun 13
BEng (1st Hons), Mechanical, University of Western Australia	Sep 11