# CHONG KOK YANG

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## EDUCATION

**Nanyang Technological University, Singapore** **Aug 2022 – Jul 2026**
Bachelor of Engineering (Chemical & Biomolecular Engineering), Specialization (Machine Learning & Data Analytics), Minor in Computing & Data Analysis
**Grade:** Expected Honors (Distinction)
**Relevant Course:** Machine Learning & Optimization, Numerical Method in Data Analysis, Thermodynamics, Reaction Engineering

## EXPERIENCE

**Ernst & Young, Singapore** **Jan 2026 – Present**
Intern, Technology Risk Assurance
- Analyze **IT controls and processes** to evaluate data integrity and system reliability.
- Assist in **testing automated controls** and documenting findings for audit compliance.
- Apply **analytical frameworks** to assess technology risks in client environments.

**MeetSocial Group, Shanghai** **Dec 2025 – Jan 2026**
Intern, Data Scientist
- Engineered data pipelines migrating 20+ TB of data; optimized models to **reduce query latency by 25%** and accelerate analysis.
- Optimized production data **warehouse structuring 10+ source systems**, improving ETL efficiency by 10%.
- Developed automated scripts **ingesting data from 5+ platforms** to support analysis for 50+ marketing campaigns.

**Keppel, Singapore** **Jun 2025 – Aug 2025**
Intern, Technical Service Engineer
- Automated project costing by designing and implementing a **relational database (SQLite/MySQL)** to replace error-prone manual Excel cost tracking.
- Built a TypeScript-based **floor plan optimizer (Top 10 layouts)** with automated DXF export for AutoCAD.
- Applied regression modeling for **cost prediction (90% accuracy)** to support data-driven decision making.
- Automated **PDF data extraction** with Power Apps AI Builder + Python + OCR.

**Skyworks Solutions Inc., Singapore** **Dec 2024 – May 2025**
Intern, Quality Engineer
- Automated scrap case review workflows using Power Automate/Apps, achieving a **95% automated** closure rate for data-driven decision-making.
- Developed a Random Forest model to predict wafer mishandling, achieving 92% detection accuracy and increasing **flagged incidents by 15%.**
- Built Power BI dashboards with text analytics to identify **100+ hidden mishandling cases**, reducing 300k losses.
- Created a Python parser to **extract and structure key event data** from reports and emails for analysis.
- Optimized the internal wafer loss reporting system, reducing **manual error rates by 15**%.

## ACADEMIC PROJECT

**Semiconductor**
Undergraduate Research Experience on Campus (URECA) Project **Aug 2023 – Jun 2024**
*Optimization of 3DSU-8 Microstructures using Mask-less Lithography: Part 1 - Multi-layered structures*
- Reduced microstructure size to **27 µm** and print time by 30% via automation.
- Improved wafer fabrication efficiency 20%; enhanced **imaging resolution 4×** with SEM + oil immersion.

**Software, Data Science**
Course Allocation System **Oct 2025 – Nov 2025**
Allocated students to assignment teams using **round-robin and rule-based systems** to maximize diversity.
Internship Placement System **Oct 2025 – Nov 2025**
Developed **TUI and GUI** using **Java OOP** for efficient internship matching.
Southeast Asia heart attack dataset clustering and dimensionality reduction optimization **Oct 2025 – Nov 2025**
Applied K-Means, Gaussian clustering, PCA, ICA, and random projection for data analysis.
Semantic Image Segmentation using Attention U-Net Variants **Sep 2025 – Oct 2025**
Implemented **Attention U-Net models** in PyTorch with data augmentation and pretrained encoders.
Robotic Maze Path Planning **Sep 2023 – Jun 2024**
Developed **path finding algorithms** for autonomous robot navigation.
Covid-19 Prediction Analysis **Mar 2023 – Apr 2024**
Built a predictive model to forecast **COVID-19** trends and **flag high-risk regions** for travel safety.

**Process Simulation**
Final Year Project
*Liquid Organic Hydrogen Carrier as Hydrogen Storage and Distribution to Singapore* **Dec 2025 – Present**
- Lead team to design a 5000 tons green **hydrogen storage/transport system** using LOFC.
  Institute of Engineering, Malaysia

*AVEVA Software Simulation Competition - MTH hydrogen storage system* **Jan 2025 – Jun 2025**
- Led team of 5 designed a 30% ROI **MTH based hydrogen storage system** with AVEVA simulations.
- Integrated PV cells to **achieve 20% green / 80% blue hydrogen** with carbon storage system.

## CO-CURRICULAR ACTIVTIES

**American Institute of Chemical Engineers, NTU Student Chapter** **Sep 2024 – Present**
President
- Founded and led the **official NTU student chapter**, managing its operations and member development.
- Organized **technical workshops** and networking events with professionals to build career-ready skills.
- Created and **ran student competitions**, including a themed jeopardy and a hackathon, to promote practical learning.

**Analytics and Data Science Club** **Aug 2025 – Present**
Vice-President
- **Developed and delivered a workshop curriculum** on core data analytics, focusing on ETL processes and model-building fundamentals to upskill the student community.

**College of Engineering, NTU** **Sep 2023 – Present**
NTU One Arena 2024 - Head Programmer
- Led 15-member team/**developed robots use tutorials**/resolved technical issues for 150+ participants.
- **Built Python-coded robotic maze** and competition schedule, reducing event transitions by 3 minutes.

**Chinese Society** **Aug 2023 – Jun 2024**
Chinese Cultural Camp - Chairperson
- Managed a committee team of **30 members**, ensuring efforts remained organized and coordinated.
- Devised an alternative activities format to ensure event continuity during participant shortages.

**NTU Association of Malaysian Chinese Independent School Alumni (AMCISA)** **Aug 2023 – Aug 2024**
Freshman Orientation Programmer
- Planned and executed interactive games and activities using **JavaScript and Google Apps Script**, with integrated Google Sheets formulas for real-time tracking and record-keeping.
- Coordinated with different portfolios to ensure smooth procedures and seamless execution of events.

## SKILLS

Languages: Proficient in English, Chinese and Malay, conversant in Spanish
Programming & Scripting: Python, MATLAB, Java, C, JavaScript, Google Apps Script, .NET, React, SQL
Data Analytics & Visualization: Power BI, Microsoft Power Platform, Excel (Advanced), DAX / M Language, Jupyter Notebook
Simulation & Engineering Tools: Aspen HYSYS, DWSIM, AVEVA, AutoCAD
Hardware & Automation: Arduino, Verilog
Semiconductor Related Skills: Wafer Fabrication, SEM Microcopy, Chemicals and Heat Management, 8D, PLD

## AWARDS/ACHIEVEMENTS

Scholarship: Kuok Foundation Full Scholarship Recipient (2022-2026)