

SINGAPORE POLYTECHNIC
INTERNSHIP PROGRAMME
Structured Training Plan

Company	Netatech Engineering Pte Ltd	Department / Section	Technology	Job Title	AI Intern
Intern Name		Supervisor Name	Director of Technology /Daniel Wong	Head of Department	Director of Technology /Daniel Wong

Duration (no. of weeks)	Main Tasks	Learning Outcomes	Date Completed	Supervisor Signature
1 week	Company Orientation & Industry Familiarisation			
	<ul style="list-style-type: none"> Study company background, HR policies, and organizational structure. Understand the company's technology solutions, markets, and partnerships. Observe internal operations and workflow between technical teams. 	<ul style="list-style-type: none"> Gain foundational understanding of company culture and structure. Identify how IT systems align with business operations and objectives. Improve communication by interacting with multiple stakeholders. Recognise how software teams contribute to end-to-end product delivery. 		
13 weeks	Software Engineering for Robotics Systems			
	Write Python code for ROS2 packages (sensor fusion, navigation, or hardware drivers).	<ul style="list-style-type: none"> Acquire hands-on experience in ROS2 and robotic middleware systems. Develop skills in full-stack software development (frontend-backend). Understand CI/CD processes in robotics environments. Build debugging and optimisation skills in real-time embedded systems. 		
	Develop APIs or simple web interfaces to display robot status or trigger actions.			
	Assist in automated software testing and deploying code to robotic platforms.			
	Troubleshoot and optimise existing robotics software stacks.			
13 weeks	AI & Data Analytics Intern for Robotics Applications			
	Build and test ML models (e.g. object detection, anomaly detection) using Python frameworks such as TensorFlow, PyTorch, or scikit-learn.	<ul style="list-style-type: none"> Learn end-to-end AI workflow: data collection, model building, testing. Apply data processing techniques for real-world robotics data. 		
	Assist in preparing and annotating datasets from sensors (cameras, LiDAR, IoT data).			

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	Develop simple dashboards or scripts to visualise insights and model outputs.	<ul style="list-style-type: none"> Understand performance constraints of ML on edge hardware. Develop ability to translate analytics into actionable insights via visualisation. 		
	Support experiments on deploying ML models to edge devices or microcontrollers.			
13 weeks	Cybersecurity & Digital Forensics for Robotics & IoT Systems			
	Conduct security reviews of our robotics communication protocols (MQTT, HTTPS, TLS).	<ul style="list-style-type: none"> Develop practical skills in IoT and network security. Understand key cybersecurity frameworks and threat modeling. Learn to implement cryptographic principles for secure communications. Gain experience with log analysis and compliance preparation. 		
	Help implement secure key and certificate management for our IoT and edge devices.			
	Monitor logs for potential threats and assist in setting up intrusion detection or audit systems.			
	Prepare cybersecurity documentation and compliance checklists for clients and regulatory bodies.			
4 weeks	Communication & Reporting			
	<ul style="list-style-type: none"> Deliver weekly presentations summarising project progress. Write technical reports or documentation on software modules and findings. Present final results and personal learning outcomes at the end of internship. 	<ul style="list-style-type: none"> Enhance public speaking and technical presentation abilities. Improve written communication through structured documentation. Develop professional reporting habits for internal and client stakeholders. Gain confidence in articulating technical work to diverse audiences. 		
Total: 44 weeks				