

CLP Internship Programme 2023

Project Outline - Mechanical Engineering

Project Code	ME_SAND_01	
Project Detail	Internship Category	Sandwich
	Internship Period	Jun/2023 to May/2024
	Preferred Discipline	First Preference: <ul style="list-style-type: none"> Mechanical Engineering Other Preference: <ul style="list-style-type: none"> Energy Engineering
	Project Name	Condition Monitorings and Analytics Enhancement in Black Point Power Station (Bpps) and We Station
	Business Objective(s)	<ul style="list-style-type: none"> To enhance condition monitoring and data analytics in BPPS and WE Station by developing and updating condition monitoring models in a well-established real-time asset monitoring software, EtaPRO; Tuning the plant-specific thermodynamic models of the existing combined cycle gas turbine (CCGT) units to accurately predict their target thermal performances and forecast the plant capacity and efficiency
	Project Description	<ul style="list-style-type: none"> Development of Advanced Pattern Recognition (APR) models in Eta PRO for asset condition monitoring and anomaly detection on the new CCGT unit, D2, Modification of those models of the existing CCGT units. The project also involves Tuning of the Virtual Plant thermodynamic models in Eta PRO for process simulation, aiming to accurately predict the target performance and forecast plant capacity and heat rate, as well as Building interfaces for WE station phase II performance monitoring
Required Skills	<ul style="list-style-type: none"> Basic understanding of thermodynamics of power generation plant Basic statistical knowledge Strong analytical skills Good knowledge of computer applications 	

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Project Outline - Mechanical Engineering

Project Code	ME_SAND_02	
Project Detail	Internship Category	Sandwich
	Internship Period	Jun/2023 to Jun/2024
	Preferred Discipline	First Preference: <ul style="list-style-type: none"> • Mechanical Other Preference: <ul style="list-style-type: none"> • Environmental
	Project Name	Cpps AI and Innovation Application
	Business Objective(s)	<ul style="list-style-type: none"> • Support in project design, development and installation of AI camera application in CPPS for environmental control and vehical control • Support in operation innovation application to faciliate unit pre-start check
	Project Description	<ul style="list-style-type: none"> • Provide real time monitoring and AI analysis of scum condition at CPFS cooling water discharge and auto alert notification, so mitigation measures can be taken timely if necessary • Manpower saving for monitoring the scum condition by AI detection system rather than conducting manned site inspection • Effective traffic control in the station by AI camera detection and warning of any mis-behaviour by drivers and commuters • Developed a unit pre-start check app to effectively support plant operators to conduct unit pre-start check in a more sophisticate manner
	Required Skills	<ul style="list-style-type: none"> • AI technology related knowledge • Programming for Apps experience

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Project Outline - Mechanical Engineering

Project Code	ME_SAND_03	
Project Detail	Internship Category	Sandwich
	Internship Period	Jun/2023 to Jun/2024
	Preferred Discipline	First Preference: <ul style="list-style-type: none"> Mechanical Other Preference: <ul style="list-style-type: none"> Other engineering disciplines
	Project Name	Operation and Maintenance Readiness of New Power Projects
	Business Objective(s)	<ul style="list-style-type: none"> Reliability Availability and Maintainability review of new projects Readiness of O&M infrastructure and IT & business systems for new projects Spares selection for new projects Readiness of procedures at new projects Operational performance reporting and benchmarking
	Project Description	<ul style="list-style-type: none"> To support supervisor to review implementation of Asset Management procedures at new power projects to achieve operational readiness in advance of start-up Involve in identification and selection of spare parts of new build Involve in Information Technology Plan and roadmap of new build To collect key performance indicators of operational plants and prepare annual reports and carry out benchmarking Operational Readiness program implementation and assurance checks
Required Skills	MS Excel and Power Point	