

LIEW JUN HAO BENG, AMRINA
NAVAL ARCHITECT
AIS & VDR ANALYST

Singapore Institute of Technology and Newcastle University, Bachelor of Engineering (Hons) Naval Architecture 2020

Associate Member of Royal Institution of Naval Architects 2017

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ACADEMIC

2024 to 2028 Newcastle University
Doctor of Philosophy, PhD

Jun Hao is currently pursuing a PhD focused on the analysis of ammonia dispersion behaviour under the influence of operational and weather conditions during ship bunkering. The PhD programme is funded by the Singapore Economic Development Board (EDB) and will be supervised by the Newcastle Research & Innovation (NewRIIS) which is part of Newcastle University in Singapore.

His research aims to advance the understanding of ammonia dispersion in marine environments, which is vital for enhancing safety protocols and operational efficiency in the shipping industry. To achieve this, a numerical model will be developed and implemented in OpenFOAM, an open-source CFD tool known for its robust flow modelling capabilities and flexibility for user customisation and further development. Furthermore, the data generated from the CFD simulations will be used to train a machine-learning model, enhancing the efficiency and accuracy of ammonia dispersion predictions. Machine-learning-driven insights will play a pivotal role in improving risk assessments and industrial practices, aligning with the increasing demand for artificial intelligence applications in the maritime sector.

EMPLOYMENT HISTORY

2021 to Present Solis Marine Consultants, Singapore
 Naval Architect

Jun Hao is a skilled Naval Architect at Solis Marine Consultants, specializing in AIS and VDR analysis. He has expertise in container lashing and stowage and is proficient in lashing force analysis. He collaborates closely with master mariners on casualty investigations and expert witness work, including the investigation of container loss, collisions and allisions, fire and casualty response, vessel damage assessment, wreck removal and salvage operations.

On his recent work, he is responsible for monitoring of oil spill response operations and cost control with various contractors at various sites in Singapore following the spill from the 'MARINE HONOUR' incident in 2024. This work involved the coordination of OSR contractors, initially on behalf of the vessel insurers and later for the Singapore government. Solis Marine were responsible for contracting with the various response organisations, monitoring operations across multiple sites, managing commercial arrangements and liaising with various stakeholders to ensure successful completion of the clean-up scope.

2019 to 2020 DNV GL, Singapore
 Structural Engineer Intern

In fulfillment of the partial requirements for his university studies, Jun Hao completed an internship in the Structural Department at the Singapore Approval Centre, DNV GL. His responsibilities included assisting structural engineers with the verification and classification of vessels, performing structural strength and fatigue calculations using software such as Sesam's GeniE and Nauticus Hull, and modeling structures in 3D using GeniE. Although his work primarily involved tankers, he was also tasked with conducting a gap analysis between Brazilian Regulatory Standards and DNV GL classification rules.

In addition to the internship program, Jun Hao's final year project focused on the structural analysis of the optimal hull form for offshore Ocean Thermal Energy Conversion (OTEC) systems. He conducted strength and FEM analysis using Sesam's GeniE, provided by DNV GL. His dissertation was awarded the RINA and BAE Systems Award for the Best Final Year Project.

2018 to 2018 Sembcorp Marine Ltd., Singapore
Design Engineer Intern

Jun Hao was an intern at the Engineering Design Department in Sembcorp Marine, where he played a key role in conducting midship strength calculations and analyses for a conversion project. His responsibilities included designing hanger decks and helidecks for military vessel, ensuring they were capable of accommodating military tanks, vehicles, and aircraft.