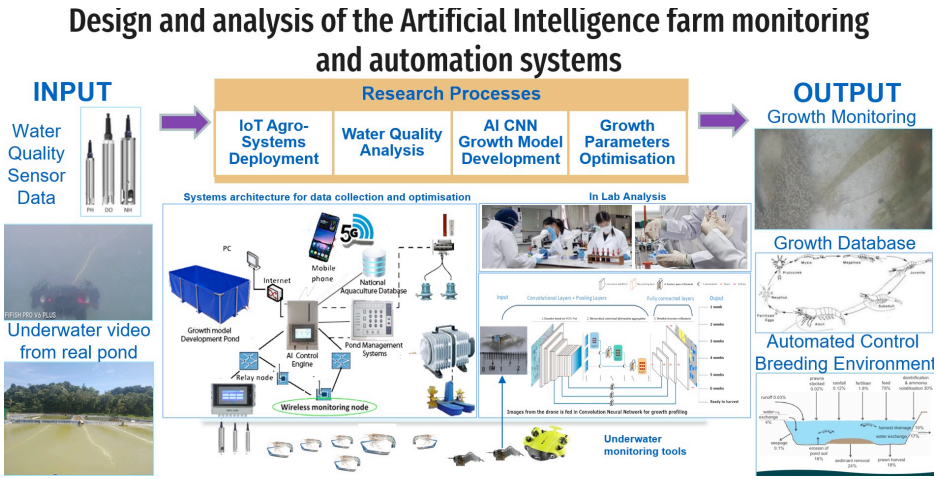
Project Title: AI-Based Real time analysis and control of the monitoring on the growth of Freshwater prawn using video image processing from underwater drone

ASEAN IVO 2022

Introduction :

To address food security, the number of aquaculture activities for offshore and onshore fish and prawn farming have increased significantly in ASEAN countries for the last 20 years. However, the production rate from small medium enterprise has been low especially for onshore prawn aquaculture. Farmers are still rely on traditional manual approach to monitor the growth of the cultures and manage the ponds. In this interdisciplinary project, an AI based recognition system is proposed to monitor the growth of Macrobrachium Rosenbergii using video images and sensors data taken from production aquaculture ponds with different water qualities.



Various Image processing and deep learning techniques will be applied to evaluate the performance of the algorithms under different image quality with different water turbidity. Sensors will be placed in the pond to capture the breeding environment and used together with the growth profile to construct the aquaculture database to be shared with other ASEAN countries. This project is part of a bigger I.R 4.0 aquaculture systems and will be supported by funds Brunei CREATES project and British Council UK-ASEAN ILECR .

Project Members :

Project Leader: Tiong Hoo Lim (UTB, Brunei)

Project Members: Dina Shona Laila (UTB, Brunei), Aida Maryam Basri (UTB, Brunei), Suriayati Chuprat (UTM, Malaysia), Seno Adi Putra (Telkom U, Indonesia) , Hanif Kafhrurroja (IIS, Indonesia)

Associate Project Members: Mr Zuhairi Hj Azahari (ODE, Aquaculture and Agriculture Company, Brunei), Mrs Tek Ying Khoo (Fisheries Department, Ministry of Primary Resource and Tourism, Brunei), Dr Peng Cheng Liu (University of York, UK)