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| **Additional Supervisor** | Daqi Liu, School of Computer and Mathematical Sciences |

**Section 2 – *Project Information***

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| **Project Title** | Robotic vision system for navigation and object recognition under low light underwater condition |
| **Project Highlights:** | 1. | Develop vision algorithms for low light navigation/object recognition |
| 2. | Set up underwater vision systems for algorithms verification |
| 3. | Conduct experiments to verify the proposed computer vision methods |
| **Project Summary**  |
| **Future autonomous systems may need to mine resources deep under the sea – an environment does not often have adequate light for autonomous systems to ‘see’ clearly. To work in those extremely low light conditions, the robotic vision system needs to have enhanced capacity to ‘see’ through the water for safe navigation, objects recognition, and manipulation.** **In this proposed topic, the candidate will identify the key challenges for computer vision systems/algorithms in extreme low light conditions, conduct literature review, propose new algorithms for safe navigation/objects recognition in underwater low light conditions, and setting up testing platform with the support and guidance from the supervisors, and verifying the algorithms with experiments.** |