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# Underwater communication system for divers using VLC

**Ayesha Adnan**
University of Wollongong in Dubai, UAE

The problem being addressed is deep underwater communication. Traditional methods such as radio frequencies limit the data transmission underwater in terms of slow speed and weak signals. If underwater communication is applied to deep sea divers it gets even more limited. Traditionally these divers use hand gestures for communication. Existing technology that does allow audio communication underwater for deep sea divers is still limiting. This is because of the guttural sound that comes out of the devices or the bulkiness or inconvenience of using the devices.

The objective of the research is to look into various methods of communication underwater using visual light communication and error detection and correction method. Then apply the most suitable method using an algorithm based on the findings to accommodate the water depth, pollution factor, and distance between the divers and apply it to the real time communication underwater.

In this research the constraints of underwater wireless communication, such as the water salinity and density and the distance between the optical transmitter and receiver will be investigated. The deeper the communication object will be underwater or further away from the optical transceiver the higher the rate of attenuation. To counter this deficiency the research will include various error detection and correction techniques for visual light communication and propose the most suitable one to be used for underwater communication.

## Biography

Ayesha Adnan is in the final year of his Bachelor's Degree in Computer Engineering at the University of Wollongong. His professional memberships include the following but not limited to; Institute of Electrical and Electronics Engineers (IEEE), and Engineers Australia.

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