# UGAN: Underwater Image Restoration with Generative Adversarial Networks

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*Abstract*—AOEAutonomous underwater robots often rely on visual input for decision making. However, due to many factors such as light refraction and particles in the water, images are often times very noisy. We propose a method using Generative Adversarial Networks (GANs) to denoise underwater images, and show that these images provide both increased accuracy for an underwater tracking algorithm, as well as a more visually appealing image.

## I. INTRODUCTION

Many autonomous underwater robots rely on visual input for decision making due to the nonintrusive, passive, and energy effecient nature of vision. Despite these advantages, many underwater environments can be quite noisy due to light refraction, blueish hue, and particles present in the water.

## II. RELATED WORK

## III. TECHNICAL APPROACH

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1) *Subsubsection Heading Here:* Subsubsection text here.

## IV. CONCLUSION

The conclusion goes here.

### ACKNOWLEDGMENT

### REFERENCES

[1] JohnsonRoberson, Matthew, et al. "HighResolution Underwater Robotic VisionBased Mapping and ThreeDimensional Reconstruction for Archaeology." Journal of Field Robotics 34.4 (2017): 625-643.