Deep Learning-based Behaviour Recognition of Squid Fishing Vessel Crew Members

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Introduction

The squid fishing industry is a crucial part of the global seafood supply chain. Squid fishing vessels are essential for harvesting this valuable seafood, but the safety and well-being of the crew members aboard these vessels are of utmost importance. Monitoring the behavior of crew members is essential to ensure their safety and the efficiency of fishing operations. Traditional monitoring methods often rely on manual observations, which can be labor-intensive and subject to human error. In recent years, deep learning-based behavior recognition has emerged as a transformative technology that can automate the monitoring process, enhance safety, and improve the overall performance of squid fishing vessels. This article explores the application of deep learning in behavior recognition of squid fishing vessel crew members [1-3].

Description

Squid fishing is a vital industry that supplies a significant portion of the world's seafood market. However, the nature of squid fishing poses unique challenges, particularly with regard to the safety and well-being of the crew members on the vessels. Ensuring the health and safety of these crew members is of paramount importance [4]. Deep Learning, a subfield of artificial intelligence, has opened up new possibilities for enhancing safety on squid fishing vessels by enabling the recognition and monitoring of crew behavior. This article delves into the application of deep learning for behavior recognition of squid fishing vessel crew members, exploring the technology's potential, benefits, and challenges. Behavior recognition in the context of squid fishing vessel crew members involves monitoring their actions, movements, and interactions to ensure safety and well-being. Deep learning models, such as Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), have made it possible to analyze video feeds from onboard cameras and other sensors to detect and respond to concerning behaviors. Deep learning models have proven effective in behavior recognition due to their ability to analyze vast amounts of data and extract complex patterns [5,6].

Conclusion

Deep learning-based behavior recognition is transforming safety and efficiency on squid fishing vessels. By automating the monitoring of crew behavior, this technology enhances safety, improves fishing operations, and ensures compliance with environmental regulations. While challenges related to data quality, privacy, and real-time processing exist, the benefits of implementing deep learning-based behavior recognition are substantial. As the seafood industry continues to evolve, leveraging AI and deep learning will play a pivotal role in the sustainable and safe operation of squid fishing vessels. This technology represents a significant step toward safeguarding both the crew members and the environment while optimizing fishing practices.

Acknowledgement

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Conflict of Interest

None.

References

1. Boelens, Ruth, Bram De Wever and Michiel Voet. "Four key challenges to the design of blended learning: A systematic literature review." *Educ Res Rev* 22 (2017): 1-18.

2. Martín-Gutiérrez, Jorge, Peña Fabiani, Wanda Benesova and María Dolores Meneses, et al. "Augmented reality to promote collaborative and autonomous learning in higher education." *Comput Hum Behav* 51 (2015): 752-761.

3. Wei, Xiaodong, Dongdong Weng, Yue Liu and Yongtian Wang. "Teaching based on augmented reality for a technical creative design course." *Comput Educ* 81 (2015): 221-234.

4. Stechert, Carsten and Hans-Patrick Balzerkiewitz. "Digitalization of a lean product development organization." *Procedia CIRP* 91 (2020): 764-769.

5. Shah, Jami J. "Designing with parametric CAD: Classification and comparison of construction techniques." *Int Workshop on Geom Model* (1998): 53-68.

6. Sumesh, Mathialagan, U. Johnson Alengaram, Mohd Zamin Jumaat and Kim Hung Mo, et al. "Incorporation of nano-materials in cement composite and geopolymer based paste and mortar–a review." *Constr Build Mater* 148 (2017): 62-84.

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