

8. Describe briefly your personal interests and your interests in autonomous systems.

My self-motivation and passion for AI was supplemented by successfully completing the projects titled “Underwater Communication System for AUV” with “De-noising of Acoustic signals with AI Algorithms”. This project aims to enhance underwater communication systems for Autonomous Underwater Vehicles (AUVs) by implementing AI-based de-noising techniques. By leveraging advanced machine learning models tailored for underwater acoustic signal processing, the system distinguishes between desired signals and underwater noise. Integrated into AUV communication systems, the de-noising model enhances signal reliability in real-time, validated through simulations and field trials, promising significant advancements in underwater data exchange.

My predilection to AI landed me in an amazing chance to collaborate with the National Institute of Ocean Technology (NIOT), an autonomous R&D organization under the Ministry of Earth Sciences, Govt. of India, on a project that centered on creating an underwater unmanned aerial vehicle. Creating computer vision algorithms to process and interpret the underwater imagery in real-time was one of the project's most difficult yet satisfying tasks. I worked on techniques to enhance image quality in low-light conditions and poor visibility, allowing the drone to effectively navigate and identify objects even in challenging environments.

My strong passion for research reaped with accolade when I published a paper on

1. **“A study on Navigation/tracking System Combining GPS and NFC Technologies”**, in prestigious **International Journal of Computer Science Trends and Technology (IJCST)** – Volume 10 Issue 3, May-Jun 2022.
2. **"Underwater Communication System for AUV"**, **International Journal of Novel Research and Development** (www.ijnrd.org), ISSN:2456-4184, Vol.9, Issue 4, page no. d553-d556, April-2024

During my three months’ internship in D.I.Y.A I have delivered lectures in Workshop about Line Follower robot in

i)JNNCE, Shimoga, Karnataka

ii) SCAD College of Engineering, Tirunelveli, Tamil Nadu

iii) St. Mother Theresa Engineering College, Thoothukudi, Tamil Nadu

I am positive that my passion for Artificial Intelligence along with strong background would bolster my pursuits, develop a holistic personality in me and help me realize my goal of serving the humanity as an AI professional.