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The Recruiting Body
The Monterey Bay Aquarium Research Institute
7700 Sandholdt Rd, Moss Landing, CA 95039

Dear Recruiter,

I am very excited to submit my application for the Dorado AUV Operations Engineer (Software Position) at the Monterey Bay Aquarium Research Institute (MBARI). I am currently pursuing my Ph.D. in the Department of Computer Science and Engineering at the University of Minnesota Twin Cities. I expect to graduate by May 2021.

My Ph.D. research focuses on solving challenging open problems in the topics of **Robot Perception**, **Machine Vision**, and **Underwater Robotics**. I work toward the design and development of robust perception modules that improve autonomous robots' cognitive capabilities to accurately perceive their surroundings in challenging sensing conditions for effective human-robot cooperation. An important feature of my research is to address the inherent operational challenges of real-world applications by designing vision and learning-based novel techniques. My proposed methodologies have been deployed in real robots (*e.g.*, Aqua AUV, LoCO AUV) and validated by field experiments at the Caribbean sea for important applications such as subsea inspection, environmental monitoring, and autonomous explorations. Additionally, the novel algorithms and technological solutions behind these methods are published in premiere robotics conference proceedings (*e.g.*, RSS, ICRA, IROS) and journals (*e.g.*, IJRR, JFR, RA-L); two other papers are in review at the T-PAMI and AURO. Moreover, my work is acknowledged by the University of Minnesota with its prestigious Doctoral Dissertation Fellowship (DDF) award in the 2019-20 academic year toward my Ph.D. dissertation.

Apart from my Ph.D. research, I have industry experiences of working on a human surveillance and monitoring system, and also on an on-chip health-care product. These industry exposures enriched my understanding of robotics and automation from the perspective of end-users, which helps me identifying useful research problems toward bridging the gap between theory and practice. Along that line, I look forward to starting my professional career with the objective to innovate novel ideas to contribute to developing next-generation robots and smart systems.

The AUV group at MBARI provides an amazing platform for intellectual exchange and professional growth as a roboticist. I believe my research and robot programming experiences are suitable for this position. I submitted my resume and other relevant information as a part of this application. Some of my recent projects can be found here: <https://xahidbuffon.github.io/projects.html>.

I appreciate your time and thank you for evaluating my application. Please consider my application and feel free to contact me for any information or subsequent directions.

Yours Sincerely,



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