Sriram S Rajan

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[Date]

[Hiring Manager Name]

[Company Name]

[Company Address]

Subject: Application for Internship - Innovative Tank Cleaning Concept Development

Dear [Mr./Ms./Mx. Last Name],

I am writing with great excitement to apply for the internship focused on developing a state-of-the-art tank cleaning concept. The challenge of enhancing fleet safety and environmental sustainability through a long-term, drydock-independent solution is exactly the kind of impactful engineering problem I am passionate about solving.

My approach to this assignment would be systematic and collaborative, breaking it down into three key phases:

Comprehensive Analysis & Benchmarking: First, I would focus on deeply understanding the current challenges by reviewing existing procedures and interviewing operational staff. Simultaneously, I would research state-of-the-art technologies in robotics, automation, and sustainable cleaning methods to identify potential solutions.

Conceptualization & Simulation: Leveraging my skills in SolidWorks and Adams, I would then develop and model different robotic or automated system concepts. Using a simulation environment like ROS Gazebo (gained from my Intel Unnati internship), I would virtually test these concepts for functionality, efficiency, and safety before any physical implementation.

Iterative Prototyping & Validation: The most promising concept would be developed into a basic prototype. I believe in a "test-fast, learn-fast" philosophy, where continuous feedback and iterative improvements are key to creating a robust and practical final solution that meets the 25-30 year durability goal.

This structured approach is grounded in my hands-on experience. At ISRO's VSSC, I contributed to a high-reliability drilling mechanism, teaching me the importance of durability. My project solving a 2D Occupancy Grid problem in simulation is directly relevant to the inspection and mapping needs of tank monitoring.

I am confident that my technical skills, combined with this practical and analytical approach, would allow me to make a significant contribution to your project. I am eager to learn from your team and collaborate on developing a solution that sets a new standard for safety and environmental care.

Thank you for your consideration. I have attached my CV for your review and look forward to discussing my application further.

Sincerely,

Sriram S Rajan