DIOGO HENRIQUE FRAGOSO DE OLIVEIRA

Tech Lead | Software Architect | Azure & DevOps

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Professional Summary

Tech Lead and Software Architect with 8+ years of experience in Node.js/NestJS microservices, Azure DevOps, and container architecture. Expert in multi-stage CI/CD, IaC (Bicep), observability, and SOLID/Clean Architecture patterns. Unique background in computer vision and 3D photogrammetry, with international publications (ISPRS) in deep learning applied to industrial inspection.

Professional Experience

Senior Software Architect   Apr 2022 – Mar 2025
Compasso UOL (Remote)

- Designed Node.js/NestJS microservices architecture with RabbitMQ, REST APIs, and SOLID/Clean Architecture patterns; governed technical consistency across multiple squads
- Structured multi-stage CI/CD pipelines in Azure DevOps (reusable templates, quality gates, Docker+ACR, IaC with Bicep)
- Defined engineering standards (versioning, REST contracts, observability) and conducted code reviews, elevating platform maturity

Backend Developer Node.js   Nov 2019 – Oct 2021
Yalo (Remote)

- Developed REST APIs and automation bots for partner integrations, reducing operational rework
- Modeled and optimized PostgreSQL/MySQL schemas, improving critical query performance
- Worked directly with clients to stabilize processes and resolve technical bottlenecks

Software Lead / Computer Vision   Oct 2018 – Dec 2022
Labmetro/UFSC – VANT3D Project (On-site)

- Led development of C++/ROS/Gazebo/OpenCV pipelines for 3D photogrammetric inspection of risers on offshore platforms (Oil & Gas)
- Integrated industrial cameras, stereoscopy, gimbal tracking, and DJI drones, delivering 3D optical inspection prototypes
- Developed ROS/Gazebo virtual environments for flight simulation and photogrammetry algorithm validation

Previous Experience

Mobile Developer – SCOND (Feb 2017 – Dec 2017): Hybrid Ionic/AngularJS/Cordova application for iOS/Android.

Web Developer C# – Lugati/CIDASC (Jan 2014 – Oct 2015): ASP.NET/C# web services, system integrations, SCRUM methodology.

Education

Bachelor's Degree in Information Systems 2026 (expected)

Federal University of Santa Catarina (UFSC) 9th semester in progress. +200h of research in robotics, computer vision, and 3D photogrammetry applied to Oil & Gas.

Technical Skills

Languages

- JavaScript, TypeScript, Node.js, C++, C#, Python, SQL

Frameworks & Tools

- **Backend:** NestJS, Express, ASP.NET, RabbitMQ
- **Computer Vision:** OpenCV, ROS, Gazebo

DevOps & Cloud

- Azure DevOps (multi-stage CI/CD Pipelines, templates, gates), Docker, Azure Container Registry (ACR)
- IaC (Bicep), observability (logs, metrics, traces)

Databases

- PostgreSQL, MySQL, SQL Server, Oracle, MongoDB

Architecture & Methods

- SOLID, Clean Architecture, 12-Factor App, Domain-Driven Design (DDD)
- Microservices, REST APIs (versioning, contracts), asynchronous messaging
- Agile Methodologies (SCRUM, Kanban)

Publications

Co-author of international scientific papers (ISPRS Archives, 2020–2021) on 3D photogrammetry, deep learning (YOLOv2), and riser inspection on offshore platforms:

- **Object Tracking Control Using a Gimbal Mechanism** (2021)
- **Targetless Photogrammetry for Inspection Planning in Oil & Gas** (2020)
- **3D Photogrammetric Inspection of Risers using RPAS and Deep Learning** (2020)