



## Allyne Machado dos Santos

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Born on 12/03/1990

### RESUMO PROFISSIONAL

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PhD in Chemical Engineering (NTNU, Norway) with over 7 years of international experience in applied research, software development, and product management. CSPO®-certified Product Owner, working on backlog prioritization, AI-powered process automation, and C++ development. Fluent in English, with a history of partnerships with Norway, combining technical depth and strategic product vision to generate direct business impact.

### EDUCATION HISTORY

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2019 – 2023

#### Ph.D. in Chemical Engineering

##### Norwegian University of Science and Technology (NTNU)

Trondheim - Norway

In collaboration with Norwegian companies.

- Thesis: *"Modelling, Optimization and Control of Recirculating Aquaculture Systems"*. Advisors: Prof. Sigurd Skogestad, Assoc. Prof. Johannes Jäschke

Development of a virtual plant in Python for monitoring aquaculture systems. Optimization and predictive control of critical variables of recirculating aquaculture systems (RAS).

2017 – 2019

#### M.Sc. in Chemical Engineering

##### Federal University of Rio de Janeiro (UFRJ)

Rio de Janeiro, RJ - Brazil

- Master thesis: *"Gray-box Nonlinear System Identification using Polynomial NARMAX Models"*. Advisors: Prof. Argimiro R. Secchi and Prof. Maurício B. de Souza Jr.

Development of a NARMAX model in Matlab applied to predictive control and production optimization in a two-well oil system using gas-lift.

2010 – 2016

#### B.Sc. in Chemical Engineering

##### Federal University of Rio de Janeiro (UFRJ)

Rio de Janeiro, RJ - Brazil

- Final project: *"Heat integration of a Natural Gas Processing Unit"*. Advisors: Prof. Argimiro R. Secchi, Kese Pontes Freitas Alberton and Carlos Paiva

2013 – 2014

#### Exchange Program

##### Universidade de Queensland, Exchange Student

Brisbane, QD - Australia

Science without Borders Program.

## WORK EXPERIENCE

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Aug/2024 – Aug/2025

### Product Ownership Coordinator, CSPO®

**Deep Seed Solutions**, Product Owner  
Rio de Janeiro, RJ - Brazil

- Configured and automated Jira and Jira Service Management to streamline project workflows.
- Defined product vision and requirements while overseeing the definition of Done for deliverables.

In addition to managing backlog prioritization, I successfully coordinated the delivery of three major features and accelerated the revitalization of a valuable, complex, and broken feature that had been in development for three years.

Participated in international visits to key clients in Europe alongside the executive team, contributing with business needs analysis and identifying opportunities for product evolution.

Mar/2023 – Aug/2024

### RD&I Senior Researcher

**Deep Seed Solutions**, Researcher 7  
Rio de Janeiro, RJ - Brazil

- Mapped and developed methodologies for new features inside the main product, enhancing software capabilities.
- Collaborated with industry stakeholders like Aker BP ASA and Karoon Energy Brasil, ensuring client needs were met.
- Engaged directly with clients to refine software solutions, fostering strong professional relationships.

Jul/2022 – Fev/2023

### Researcher R&D

**SENAI CETIQT**, Researcher II  
Rio de Janeiro, RJ - Brazil

- Collaborated with Eldorado Brasil to develop a digital twin for a multiple-effect evaporation process.
- Utilized Aspen Plus and Excel to enhance process modeling and simulation accuracy.
- Engaged in research that supports advancements in paper and cellulose production.

Fev/2019 – Jul/2022

### Ph.D. Research Fellow

**Norwegian University of Science and Technology (NTNU)**  
Trondheim - Norway

Temporary position in collaboration with industry.

Developed an MVP of an evolutionary algorithm called OFFA (Optimal and Flexible Field Architecture) to fast screening concepts to the offshore industry using Petex, an oil and gas field simulation software, and Excel. Supervision of students and co-authorship of international articles.

Set/2018 – Dez/2018

### Researcher

**Norwegian University of Science and Technology (NTNU)**, External Researcher  
Trondheim - Norway

Internship with financial support from the International Partnerships for Excellence Education, Research and Innovation Consortium (INTPART) in collaboration with Subsea Production and Processing (SUBPRO).

## KEY SKILLS

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### Language Skills

- Portuguese – Native
- English – Fluent
- Norwegian – Basic

## Computer Skills

- Tools: Jira, Office, Git, LaTeX, Aspen Plus
- Programming: Matlab, Python, C++, MySQL

## COURSES AND CERTIFICATES

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- Python & MySQL - certified by Udemy
- Unix Shell; R (Rstudio); Git - certified by Software Carpentry
- Scrum Product Owner, CSPO® - certified by Scrum Alliance