



# Ícaro Aragão Fonseca

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## ● WORK EXPERIENCE

03/2023 – CURRENT Bærum, Norway

**BUSINESS TECHNOLOGIST, HECLA EMISSIONS MANAGEMENT WILHELMSSEN SHIP MANAGEMENT**

- Created product roadmaps based on internal vision and customers' feedback. Prepared documents and mock-ups used as input for design analyses and feature development.
- Oversaw data integrations with external systems, providing services to hundreds of subscribed vessels. Developed some of the data pipelines keeping internal databases updated myself.
- Assisted the operations team on inputting data into internal systems, on establishing workflows to that aim, and performed ad hoc data corrections or adjustments when needed.
- Documented product knowledge to ensure shared understanding among stakeholders.
- Enabled communication between units to deploy needed cloud resources and ensure they were compliant with company's policies.

08/2023 – CURRENT Ålesund, Norway

**ADJUNCT ASSOCIATE PROFESSOR DEPT. OF OCEAN OPERATIONS AND CIVIL ENGINEERING, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

- Assisted preparation of research papers and reports to the EU by scoping and refining topics, contributing to writing, and providing feedback.
- Contributed to preparation of 2 grant proposals to raise funds for new research and teaching projects.
- Acted as evaluator to MSc dissertations and as peer-reviewer to journal articles and conference papers.
- Co-supervised one PhD candidate.

01/2022 – 03/2023 Bærum, Norway

**BUSINESS TECHNOLOGIST, DATA & PERFORMANCE MANAGEMENT WILHELMSSEN SHIP MANAGEMENT**

- Developed models for monitoring of vessel energy performance and environmental compliance, such as CII, EU ETS, and engine utilisation.
- Interacted with customer's representative to understand their needs regarding performance monitoring, then wrote and rolled out custom scripts to address these needs.
- Oversaw and further developed integration of related systems (data pipelines, APIs, web scraping).
- Specified and tested web-based user interfaces.

08/2018 – 11/2021 Ålesund, Norway

**PHD CANDIDATE DEPT. OF OCEAN OPERATIONS AND CIVIL ENGINEERING, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

Co-supervised three master students.

11/2019 – 01/2020 São Paulo, Brazil

**VISITING RESEARCHER (ACADEMIC EXCHANGE) NUMERICAL OFFSHORE TANK (TPN), UNIVERSITY OF SÃO PAULO**

- Developed a web-based digital twin wave basin as part of my PhD thesis.
- Link to app: [https://shiplab.github.io/dt\\_cv/basin\\_demo.html](https://shiplab.github.io/dt_cv/basin_demo.html).

08/2015 – 02/2016 Ipojuca, Brazil

**ENGINEERING INTERN VARD PROMAR**

(30 hours/week)

02/2018 – 04/2018 London, United Kingdom

**VISITING RESEARCHER (ACADEMIC EXCHANGE)** MARINE RESEARCH GROUP, UNIVERSITY COLLEGE LONDON

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Developed a few web apps for resistance simulation and optimisation during early stage ship design as part of my MSc thesis.

08/2017 – 01/2018 Ålesund, Norway

**RESEARCH ASSISTANT** SHIP DESIGN AND OPERATION LAB, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

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(~7.5 hours/week)

- Documented Vessel.js, a web-based open source library for early stage ship design.
- Developed apps for hydrostatic and stability calculations with Vessel.js.
- Link to library: <https://shiplab.github.io/vesseljs/>.

08/2014 – 06/2015 Ålesund, Norway

**RESEARCH INTERN** SHIP DESIGN AND OPERATION LAB, ÅLESUND UNIVERSITY COLLEGE

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(~7.5 hours/week)

## ● EDUCATION AND TRAINING

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08/2018 – 11/2022 Ålesund, Norway

**DOCTOR OF PHILOSOPHY IN OCEAN OPERATIONS** Norwegian University of Science and Technology

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**Thesis** A Standards-Based Approach to Modelling of Digital Twin Ship Data — Assessment of current standards and methods for future standardisation

08/2017 – 06/2018 Ålesund, Norway

**MASTER OF SCIENCE IN SHIP DESIGN** Norwegian University of Science and Technology

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**Thesis** An Open Source Taxonomy for Simulation of Marine Operations

07/2010 – 10/2016 Recife, Brazil

**ENGINEER DIPLOMA IN MARINE ENGINEERING / NAVAL ARCHITECTURE** Federal University of Pernambuco

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- 5 year engineering degree, extended in 1 year due to academic exchange at NTNU.

**Thesis** Compatibilisation of Software for Optimising Moonpool Shape with Respect to Operational Performance

08/2014 – 06/2015 Ålesund, Norway

**EXCHANGE PROGRAM IN SHIP DESIGN** Norwegian University of Science and Technology

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- Academic mobility corresponding to the first year of Ship Design MSc program at former Ålesund University College, now NTNU in Ålesund.

## INDEPENDENT COURSEWORK

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- Microsoft, Azure Fundamentals (2023): <https://learn.microsoft.com/api/credentials/share/en-us/caroFonseca-1510/72059E1C0D2D4219?sharingId=4E4AB9806E2DB81F>
- edX / CaltechX, Learning From Data (Introductory Machine Learning) (2017): <https://courses.edx.org/certificates/a67905364aa646ed80fa97a101ce6e9b>

## ● PROJECTS

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08/2023

**Smart European Shipbuilding (SEUS)**

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Contributing with the SEUS project as Adjunct Associate Professor at NTNU.

**Link** <https://cordis.europa.eu/project/id/101096224>

## DIGITAL SKILLS

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Python | JavaScript | HTML | SQL | Git | Machine Learning (basics) | ISO 19848 | ISO 19030

## PUBLICATIONS

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[ORCID ID: 0000-0003-0189-2576](#)

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## HONOURS AND AWARDS

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05/2024

### The Wakeham Prize – Royal Institution of Naval Architects

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Prize awarded yearly to best general paper in the International Journal of Maritime Engineering by an author aged 35 or under.

Link <https://ntnuopen.ntnu.no/ntnu-xmlui/handle/11250/3120531>

08/2014

### Science without Borders - Scholarship – CAPES (Brazilian Agency) and Equinor

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Scholarship to cover stay of one academic year at former Ålesund University College, now NTNU in Ålesund.

12/2011

### Human Resources Program for Shipbuilding PRH-PB04 - Scholarship – Petrobras

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Scholarship for research initiation during undergraduate studies.

## LANGUAGE SKILLS

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Mother tongue(s): **PORTUGUESE**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
NORWEGIAN	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## NETWORKS AND MEMBERSHIPS

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09/2020 – CURRENT Royal Institution of Naval Architects

### Associate Member

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12/2018 – CURRENT Teknisk-naturvitenskapelig forening

### Member

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