

## PERSONAL INFORMATION

## Fernando Luz

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## POSITION Engineering Manager

## WORK EXPERIENCE

## 2021 - Present Engineering Manager

Talkdesk

As the Engineering Manager at Industries BU, I have overseen a comprehensive portfolio, which includes **Healthcare Experience Cloud (HEC)**, **Automated Notifications (AN)**, and **Agent Flows (AF)** products, along with the dedicated **QA** team. In this capacity, I've had the privilege of leading and mentoring a team of **13+ Individual Contributors**, ranging from entry-level professionals to team leads.

I've not only managed these **critical products** and teams but also **championed** a culture of innovation, **collaboration**, and **continuous improvement**. My role has been integral in driving our organization's commitment to delivering **high-quality** solutions and **fostering** a dynamic and **forward-thinking** work environment.

- Achievements:
- The **HEC** has been a cornerstone of our efforts, involving the seamless integration of health-care call centers with unified patient information. This initiative has enabled more efficient and informed patient interactions.
  - The **AN** has been instrumental in enhancing communication, focusing on the definition of rules and events to schedule and deliver notifications. These notifications are triggered by complex rules, ensuring timely and precise interactions with our clients.
  - The **AF** has revolutionized our customer support processes by empowering agents with scripted guidance during customer calls. This feature has significantly improved the efficiency and effectiveness of our support teams.
  - The **QA team** under my guidance has been instrumental in maintaining and elevating the quality of our products. We have established a robust framework and procedures to rigorously validate product quality, ensuring that our solutions meet and exceed industry standards.

## 2021 - 2022 Senior Software Engineer

Talkdesk

Integrate a new team from the ground to create a new solution for banking financial services.

The tech stack in this project uses **Kotlin (BE)**, **SpringBoot**, **React (FE)**, **Redis**, **PostGres SQL**, **MongoDB**, **RabbitMQ**.

- Achievements:
- Release the first version of Visual IVR for Financial Services in the Summer release;
  - Created a in-house solution for Visual IVR Frontend;
  - Present some technical sessions to present new technologies (Functional Programming, K6).

## 2018 - 2021 Senior Software Engineer

Capgemini Portugal [ASML Project]

Responsible to start the **ASML** project, where I contributed in **Variant Pattern** implementation at the robot component to be used in next lithography machine generation (EXE-5000), and currently I'm leading the Portugal team to expand unit tests quality using a framework based on **gtest**. I was one of the founders in the Meetup internal group in Altran PT.

- Achievements:
- Delivered first version for RYUN (Universal Pick and Place Robot) component, with **all features planned** for this version;
  - Added unit tests for RYUN component with **100% of code coverage** and contributed with the RYAU component **migration** to legacy version;
  - Successfully achieved the first phase of the UTKK to ATTEST migration (**around 400 tests in 10 weeks, instead of the initial expectation of 6 months**).

## 2016 - 2018 IT Manager

Technomar Engineering

**Managed** the team responsible to implement new features in the **TMS (Technomar Maritime Simulator)**. **TMS** is a vessel maneuver simulator used in training activities. **Launched** the certification planning for **TMS** simulator by DNV GL agency, and the **collaborated** in the core of hydrodynamic numerical model applied in a "full bridge" simulator. **Cultivated** good practices in software development process, such as **Scrum/Kanban** board, **TDD**, **Git** adoption and **mentored** meeting sessions to promote the homogenization of the knowledge of the team.

- Achievements:
- Enhanced in communication channel using the phonon framework, with gains in **15% speedup** and improve the code maintainability;
  - Redesigned the database in MongoDB, with a **definition of a schema** to be use in DB, and implemented a unified access library to access the data;
  - Orchestrated the **full delivery** of new simulation station at Technomar office, providing a simulator with 360 degrees immersion;
  - Instituted **Gitlab** as tool to obtain code metrics, and manage the bugs, new features, backlog and milestone control for the team and the founders.

## 2008 - 2016 Researcher / HPC Software Engineer

Numerical Offshore Tank

My role in the TPN laboratory was to develop a set of applications with **High-Performance Computing**. The languages I use was **C++/C**, **Python**, **MPI/sockets** and **bash** in Linux and Windows environment. Other duties includes testing and validation of numerical simulations, optimization, implementation of parallel improvements and integration with other projects. I also worked in others several projects, including the first version of **vessel maneuver simulator** called **SMH**. This project was select as finalist of **ANP (National Petroleum Agency)** Prize Award for Technological Innovation in 2016.

- Achievements:
- Optimized parallel execution of the numerical solver in the cluster environment saving around **35% in resources** using my Ph.D. research;
  - Minimized around **10% the time execution** in the standalone version of the numerical solver using OpenMP and implemented a **cross compilation** in Windows and Linux environment with CMake;
  - Introduced a **MPI communication** instead pure socket, providing more robustness in the communication channel;
  - Reduced in order to **60% the storage space** with the output results of the application using a binary format;
  - Championed the use of *tests in development* flow to increase the development quality and built an initial **CI** with (CDash and CTest) to check the repository integrity.

## 2011 - 2016 Graduate Full Professor

Paulista University

Teaching-related responsibilities such as giving lectures, tutoring, manage homeworks, laboratory activities, exams preparation and grading.

## EDUCATION AND TRAINING

2010 - 2015 **Ph.D. in Computing Engineering**

Title Methodology for execution of parallel applications based on BSP model with heterogeneous tasks

Polytechnic School, University of São Paulo (USP)

2006 - 2010 **M.Sc. in Applied Physics**

Title Implementation of the MILC package in the study of full QCD  
Physics Institute of São Carlos, University of São Paulo (USP)

2001 - 2006 **B.Sc. in Physics**

Physics Institute of São Carlos, University of São Paulo (USP)

## PERSONAL SKILLS

## Technical skills

- Agility
- Kotlin
- SpringBoot
- C++
- Bash
- Python
- Object-oriented design
- Jira
- C

## Soft skills

- Team player
- Problem Solver
- Ownership
- Time management
- Build solutions
- Lead and deliver complex software systems

## ADDITIONAL INFORMATION

## VOLUNTEERING

Jun 2022 - Present **President**

Associação de Pais e Encarregados de Educação da Escola Básica Manuel António Pina

Oct 2021 - Jun 2022 **Executive Secretary**

Associação de Pais e Encarregados de Educação da Escola Básica Manuel António Pina