

João Paulo Carneiro Aramuni

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Belo Horizonte, MG, Brazil

Objective

Professor and CTO with experience in software development, team management, and technology teaching, seeking to continue contributing with academic innovation and complex system development projects.

Summary

PhD (2017-2020) and MSc (2014-2015) in Information Systems and Knowledge Management from FUMEC University, where he also earned his BSc in Computer Science (2010-2013). Professional with 13 years of experience in the software development industry and 9 years in education teaching technology. Currently, he is a professor of the courses Foundations of Algorithm Design and Analysis, Software Project, Software Development Laboratory, Software Experimentation Laboratory, and Interdisciplinary Project: Applications for Real Scenarios in the Software Engineering program at Pontifical Catholic University of Minas Gerais (PUC Minas). In addition, he supervises the Undergraduate Thesis II course and serves as CTO of the Experimental Software Agency at the ICEI - Institute of Exact and Information Sciences at PUC Minas, managing 6 development teams, averaging 30 people. He has also taught the courses Interdisciplinary Project: Web Applications and Algorithms and Data Structures I (C Language) in the Software Engineering program and the Introduction to Programming Laboratory in the Computer Science program at PUC Minas. In industry, he provides specialized consulting to recruitment companies, applying artificial intelligence to identify and evaluate technical profiles, and to the banking sector, focusing on system architecture definition, implementation of monitoring and observability tools, and resolution of technical issues. Previously, he taught Programming Languages (Java), Web Application Architecture, and Databases in the Computer Science, Information Systems, and Systems Analysis and Development programs at Newton Paiva University Center. He worked as Tech Manager at the IN8 holding company, leading development squads for multiple projects in the air miles market. He was Tech Lead for backend and computer science teams at Trybe (2020-2023), responsible for managing several teams, researching and making decisions on hard skills, defining OKRs and KPIs, training and developing technical staff, hiring processes, content production (Python and Java), and technical review. He also taught Software Architecture and Requirements Engineering at XP Education College - XPE and taught Object-Oriented Programming with Java, Theoretical Foundations of Computing, and Compilers with C++ in the Computer Science program, as well as Software Engineering II and Introduction to Web Programming in the Distance Learning Information Systems program, and Scripts Development I (VBScript) and II (Shell Script) in the Computer Networks Technology program at FUMEC University (2016-2020). He has supervised 40 undergraduate theses in Computer Science and Software Engineering and has participated in more than 50 thesis defense boards. He was a member of the LAIS (Advanced Information Systems Laboratory) research group, publishing articles in national and international journals, and coordinated extension projects. He worked as a systems analyst for Capgemini, providing IT services, was allocated at Prosegur Brazil, developing Java solutions for logistics and cash transport, and was a senior backend developer at IN8, creating Python web scrapers and crawlers for mileage programs. He has expertise in: Leadership and team management, Software development, Agile documentation, Global system implementation, Legacy system maintenance, Design patterns, and Agile methodologies: Scrum and Lean. He has experience developing software for projects at Oi Telecommunications, ANP - National Agency of Petroleum, Natural Gas and Biofuels, Banco do Brasil S/A, VSB - Vallourec Sumitomo Tubes Brazil, Prosegur Brazil, HotMilhas, 123milhas, Jedis - Technology and Recruitment, CDC Bank - Technology Solutions for Payments, Sustainability Intelligence Center (CIS) at BH-TEC - Belo Horizonte Technology Park, PMMG - Military Police of Minas Gerais, Mário Penna Institute, Clinical Physiotherapy Center at PUC Minas, and PUC Minas.

Experience

- Pontifical Catholic University of Minas Gerais (PUC Minas)**
Software Engineering Professor and CTO of the Experimental Software Agency
Feb 2024 - Present
Belo Horizonte, MG, Brazil
 - Teaching courses: Foundations of Algorithm Design and Analysis, Software Project, Software Development Laboratory, Software Experimentation Laboratory, and Interdisciplinary Project.
 - Supervision of Undergraduate Thesis II.
 - Management of 6 development teams (approx. 30 people).
 - Workshops and lectures on Python, Spring Boot, Docker, PostgreSQL, MongoDB, Cloud, and AI.
- Newton Paiva University Center**
Professor of Computer Science and Information Systems
Aug 2023 - Aug 2024
Belo Horizonte, MG, Brazil
 - Teaching courses: Programming Languages (Java), Web Application Architecture, Databases.
 - Awarded Outstanding Professor of the Information Systems program (2nd semester 2023).
 - Programming Logic with Scratch for high school classes.

- IN8** *Jun 2023 - Aug 2023*
Belo Horizonte, MG, Brazil
Tech Manager
 - Leadership of squads in multiple system projects for the air miles market.
 - Ensuring availability, scalability, performance, and security of applications.
 - Mentorship, IDPs, and integration between technical and business areas.
 - Tech Stack: Node.js, Next.js, Python, FastAPI, AWS, Docker, CI/CD, REST APIs, Redis, Grafana, New Relic.
- Trybe** *Mar 2023 - Jun 2023*
Remote
Computer Science Curriculum Tech Lead
 - Role: Technical Lead for the Computer Science Curriculum. Responsible for the Python curriculum structure and the technical development of the team.
 - Research and decision-making:
 - * Ensure accuracy and up-to-date content of hard skills syllabus, maximizing student employability.
 - * Make technical decisions based on data and facts, considering students' individuality while benefiting the experience and proficiency of as many students as possible.
 - * Make fast and high-quality decisions regarding student feedback within the continuous improvement cycle.
 - * Guide and define the vision and technical direction of the module.
 - Training and mentoring:
 - * Support the technical development of the team, investing quality time in training, continuous feedback, and mentoring.
 - * Guide and resolve challenges in content development, ensuring high quality and deadlines.
 - * Lead technical discussions inside and outside the area, inspiring and implementing solutions within the team.
 - Content production and technical review:
 - * Produce complex content in text, video, exercises, and projects with automated assessment.
 - * Ensure technical quality across all educational resources, following Trybe's standards.
 - * Maximize content reuse, aiming at large-scale employability.
 - * Develop and improve assessment tools that are informative and technically solid.
- Trybe** *Aug 2022 - Mar 2023*
Remote
Computer Science Lead & Tech Lead
 - Responsible for the Python curriculum structure and for managing a team of 3 people.
 - Management of Computer Science content, research, and decision-making on hard skills.
 - Definition of OKRs and KPIs for the area.
 - Training and technical guidance of the team, content production, and direct leadership of curriculum analysts.
 - Supported the management and development of Python and Java curricula and syllabi.
- Trybe** *Apr 2021 - Aug 2022*
Belo Horizonte, MG, Brazil
Computer Science Lead Instructor
 - Instruction leadership in Computer Science, responsible for the learning operation of the classes.
 - Management of a team of 10 people, definition of OKRs and KPIs, hiring processes, and direct leadership of specialists and instructors.
 - Assisted in forming and led Trybe's first Computer Science team.
- Trybe** *Oct 2020 - Apr 2021*
Belo Horizonte, MG, Brazil
Back-End & Computer Science Lead Instructor
 - Instruction leadership in Back-End and Computer Science, responsible for the learning operation of the classes.
 - Management of a team of 17 people, definition of OKRs and KPIs, hiring processes, and direct leadership of specialists and instructors.
 - Assisted in forming and led Trybe's first Back-End and Computer Science team.
- Trybe** *Mar 2020 - Oct 2020*
Belo Horizonte, MG, Brazil
Computer Science Specialist Instructor
 - Specialist in Computer Science instruction, teaching Python programming, OOP, web scraping, algorithms, and data structures.
 - Promote the development of students' technical proficiency, providing high-quality learning experiences.
 - Assisted in building the first version of the Computer Science curriculum content and syllabus at Trybe.
 - Taught classes for Class 1, Trybe's first cohort.
- XP Education College** *Sep 2020 - May 2021*
Belo Horizonte, MG, Brazil · Remote
Professor

- Taught Software Architecture and Requirements Engineering.
- Presented fundamental concepts, practices, and tools for software architectural projects, as well as hard and soft skills for training software architects.
- **FUMEC University** *Feb 2016 - Aug 2020*
Belo Horizonte, MG, Brazil
Professor
 - Taught Theoretical Foundations of Computing (FTC), Compilers, and Object-Oriented Programming (OOP) in the Computer Science program:
 - * FTC: Theoretical bases and limits of Computer Science, definition of formal languages, grammars, and recognizers.
 - * Compilers: Theoretical and practical concepts of compilers, modules, and implementation following lexical and grammatical standards.
 - * OOP: Basic concepts and techniques of object-oriented programming, implementation in Java.
 - Taught Scripts Development I (VBScript) and II (Shell Script) in the Computer Networks program.
 - Taught Software Engineering II and Introduction to Web Programming in the Distance Learning Information Systems program.
 - Extracurricular activities: Academic advising, coordination of extension projects, student guidance for jobs and internships.
- **IN8** *Dec 2019 - Mar 2020*
Belo Horizonte, MG, Brazil
Senior Back-End Developer
 - Web scraping and development of Python 3 crawlers for airline mileage programs.
 - Creation and maintenance of RESTful APIs for data extraction and browser automation.
 - Cloud architecture modeling (AWS) with auto-scaling support for HA/DR.
 - CI/CD (Git, GitLab), container management (Docker), application monitoring (Grafana, New Relic).
- **Prosegur (via Capgemini)** *Oct 2014 - Sep 2017*
Belo Horizonte, MG, Brazil
Systems Analyst
 - Development of distributed system in Java 8 with JavaFX / JSF / PrimeFaces / EJB / JPA / EclipseLink / JProfiler / WebLogic / SoapUI / Jenkins.
 - Global software deployment (AR/AUS/BR/CHN/DE/ESP/FRA/RSA/URU).
 - Continuous improvement, component refactoring, performance optimization (JProfiler, Eclipse MAT).
 - WebServices construction and testing (JAX-WS), automated tests with JUnit and Selenium.
 - Oracle Database manipulation, PL/SQL programming of Procedures and Triggers.
 - Documentation and Use Case specification in Spanish.
 - Agile methodology adopted: Scrum.
- **Capgemini** *Oct 2015 - Aug 2017*
Belo Horizonte, MG, Brazil
Pl Systems Analyst
 - Analysis and development in Java / Java Web; maintenance of systems in Classic VB6 / VB.NET.
 - Web development with Classic ASP / ASP.NET / VBS; Software Maintenance.
 - SQL Server / Oracle Database manipulation; Programming with PL/SQL Procedures and Triggers.
 - Work on legacy systems and legacy code debugging.
 - Documentation/Specification: Use Cases and UML. Good interpersonal relations with clients.
 - Contracts: Oi Telecommunications; ANP; Prosegur Brazil.
 - Agile methodology adopted: Lean Manufacturing.
 - Positions held: Pl Systems Analyst / Jr Systems Analyst / Sr Programmer / Jr Programmer.
- **Capgemini** *Oct 2014 - Oct 2015*
Belo Horizonte, MG, Brazil
Jr Systems Analyst
 - System development in Java, maintenance of legacy systems, and application support.
- **Capgemini** *Mar 2014 - Oct 2014*
Belo Horizonte, MG, Brazil
Sr Programmer
 - Second time in Capgemini Brazil's history where promotion jumped from Junior to Senior, skipping the Pleno level.
- **Capgemini** *Aug 2013 - Mar 2014*
Belo Horizonte, MG, Brazil
Jr Programmer
 - System development in Java, maintenance, and support of legacy applications.

- **Banco do Brasil S/A** *Jul 2012 - Apr 2013*
Belo Horizonte, MG, Brazil
Intern - Mandatory Supervised Internship
 - Development and support of Java / Java Web applications for banking automation.
 - Maintenance of systems integrated with SISBB for control and refund of amounts retained in ATMs.
 - Development and support of legacy applications in VBA / VB6.
 - Programming with PL/SQL Procedures and Triggers; requirements gathering.
- **Álamo - IT Solutions** *Jul 2011 - Oct 2011*
Belo Horizonte, MG, Brazil
C Programmer - Internship
 - Development in C / .NET (v3.5) for engineering project lifecycle management system (Project STOR).
 - Web development with ASP.NET for electronic time tracking system (WorkTeam).
 - Software maintenance, version control, and version merging using TortoiseCVS.
 - SQL Server database manipulation; creation of procedures and triggers.
 - Contracts: VSB – Vallourec and Sumitomo Tubes of Brazil, and Ferrous Resources of Brazil.
- **FUMEC University** *Jul 2010 - Dec 2010*
Belo Horizonte, MG, Brazil
Intern
 - CPD FACE/FUMEC - Development of internal applications using PHP and JQuery.
 - Technical support in networks; Linux server maintenance; Shell Script programming; Help Desk.
- **CETEC Nanoscopy Laboratory** *Jul 2010 - Aug 2010*
Belo Horizonte, MG, Brazil
Undergraduate Research Scholarship - PIBIC/CNPq
 - Project: "Use of atomic force microscopy to characterize the interaction of polyphenolic and phototherapeutic compounds as candidate antiviral drugs, with MT2 cells and HTLV-1 virus."
 - Objective: Use Atomic Force Microscopy technique to investigate viruses and antivirals.
 - Project developed at the Basic and Applied Virology Laboratory of UFMG and at the CETEC Nanoscopy Laboratory.
 - Funder: Research Support Foundation of the State of Minas Gerais (financial aid).

Education

- **Dom Cabral Foundation** *2022*
Brazil
Leadership Development Program (LDP) - Leaders of Leaders / Team Leaders
 - Alignments on roles and responsibilities of managers at Trybe based on the People Management Cycle.
 - Duration: 40 hours.
- **FUMEC University** *2017 - 2020*
Belo Horizonte, MG, Brazil
Ph.D. in Information Systems and Knowledge Management
- **FUMEC University** *2014 - 2015*
Belo Horizonte, MG, Brazil
Master's in Information Systems and Knowledge Management
- **FUMEC University** *2010 - 2013*
Belo Horizonte, MG, Brazil
Bachelor's in Computer Science

Skills

- Leadership and team management
- Software development and design patterns
- Agile documentation and Scrum and Lean methodologies
- Global system deployment and legacy system maintenance
- Languages: Python, Java, C, C++, VBScript, Shell Script
- Frameworks and Libraries: Spring Boot, React, Next.js, Vite, Node.js, Tkinter
- Databases: PostgreSQL, MongoDB
- Cloud and DevOps: AWS, Docker, CI/CD
- Observability: Grafana, New Relic

Projects

- **Recruitment Contest - PMMG** (Experimental Software Agency - PUC Minas, Feb 2025 – Present)
Partnership with the Military Police of Minas Gerais to modernize HR processes. Developed a system for candidate traceability, reducing weeks of manual work and impacting over 50,000 people per contest. AES | PMMG
- **Institution Map - BH-Tec** (Experimental Software Agency - PUC Minas, Feb 2025 – Present)
Web application to map and give visibility to technological institutions focused on sustainability in Minas Gerais. Provides metrics to support governmental decision-making. AES | BH-Tec
- **Ajuda-aí** (Experimental Software Agency - PUC Minas, Aug 2024 – Present)
Mentorship application for the Software Engineering course, with an advanced matching algorithm to optimize communication between mentors and mentees. AES
- **Program Card - PMMG** (Experimental Software Agency - PUC Minas, Aug 2024 – Present)
System for digitization and planning of police itineraries in Minas Gerais, increasing operational efficiency. AES | PMMG
- **CuidoBem** (Mário Penna Institute and Physiotherapy Clinical Center at PUC Minas, Aug 2024 – Present)
Application to guide oncology patients in post-hospital physiotherapy exercises, promoting early discharge and better treatment adherence. AES | Mário Penna Institute | PUC Minas
- **Smart Curriculum** (Experimental Software Agency - PUC Minas, Aug 2024 – Present)
Software to organize students' curriculum matrix, with graphical visualization, course reorganization, and academic progress tracking. Smart Curriculum | AES
- **Landing Page** (Experimental Software Agency - PUC Minas, Feb 2024 – Present)
Institutional page to present the agency, capture requests, and showcase projects and team talents. AES
- **Rhapido 2.0** (Jedis Technology - Recruitment and Selection, May 2025 – Jul 2025)
Recruitment process management system with artificial intelligence, smart resume screening, candidate timelines, compatibility algorithms, custom departments, internal resume database, and behavioral tests application (JDScan). Jedis Technology
- **WordPress Development** (FUMEC University, Aug 2018 – Sep 2018)
Extension project demonstrating the construction and publication of full websites using WordPress for students of Computer Science, Computer Networks, and Information Systems.
- **Tech Talks** (FUMEC University, Apr 2018 – Jun 2018)
Extension project to enhance English skills through texts and technology discussions, aimed at students of Computer Science, Computer Networks, and Information Systems.
- **SOL - Logistics Operations System** (Prosegur, Oct 2014 – Sep 2017)
Software system for cash logistics, integrating operations from multiple countries, managing resources, vehicles, routes, and services, with easy configuration, deployment, and maintenance.
- **Research on Lean Manufacturing in IT Project Management** (FUMEC University, Nov 2014 – Oct 2015)
Master's thesis analyzing the adoption of Lean Manufacturing in agile IT project management at a French multinational, including methods, systems, model divergences, and statistical analysis of survey and interview data.
- **SIGEP and I-SIGEP Projects** (ANP - National Agency of Petroleum, Natural Gas and Biofuels, Aug 2013 – Oct 2014)
Management information systems for oil and natural gas exploration and production, including digital document submission, access control, audit protocols, and migration to a new version with XML/XLS support and digital signatures.
- **SIMP and I-SIMP Projects** (ANP, Aug 2013 – Oct 2014)
Information systems for integrated monitoring of regulated product production and movement in the downstream chain. Objective: improve ANP regulatory actions, produce quality statistics, plan intelligent inspections, and provide market insights via business intelligence.
- **Internal Systems Integrated with SISBB** (Banco do Brasil S/A, Jul 2012 – Apr 2013)
Development of systems integrated with SISBB, focused on processing banking operations and ATM refunds. Migration of legacy applications in COBOL/VBA to Java and web platforms, increasing banking automation and operations control.
- **Programming in C - ANSI Style** (FUMEC University, Jul 2011 – Dec 2011)
Repository of C (ANSI) exercises and codes for students, presenting multiple solutions for the same problem, including iterative, recursive, and one-line recursive versions, focusing on code quality, performance, and maintainability.
- **STOR** (Vallourec and Sumitomo Tubes of Brazil - VSB, Jul 2011 – Oct 2011)
BIM (Business Information Modelling) support tool, integrating all project demands, managing costs, materials, and final product quality, reducing errors, rework, and time to market.
- **Project and Personnel Control System - WorkTeam** (Álamo IT, Jun 2011 – Sep 2011)
ASP.NET web system for internal project management and electronic time tracking, accessible to clients and employees, enabling real-time monitoring and supporting company decision-making.

- **CEMEI - Center for Senior Education** (FUMEC University / Belo Horizonte City Hall, Aug 2010 – Dec 2010)
Extension project focused on free basic computer education and interdisciplinary actions for elderly citizens, promoting social inclusion and citizenship, with participation of scholarship and volunteer undergraduate students.
- **Laboratory Reservation System** (FUMEC University / FACE, Jul 2010 – Dec 2010)
PHP system for managing laboratory reservations, displaying real-time availability via TV, streamlining space usage for students and professors, benefiting over 6,000 users daily.
- **Research on Atomic Force Microscopy and Antiviral Compounds** (FUMEC University, Aug 2010 – Oct 2010)
Research project aimed at characterizing viruses and the interaction of polyphenolic and phytotherapeutic compounds as candidate antivirals using Atomic Force Microscopy, providing sub-nanometric images under physiological conditions.

Publications

Agile Management of Organizational Memory: Changing Organizational Culture for Better Utilization of Intellectual Capital

Technology & Culture Journal (CEFET/RJ), 2020

Proposal of a Framework for Building an Enterprise Data Architecture: A Case Study in a Pharmaceutical Company

MANAGEMENT & LEARNING Journal, 2020

Vulnerabilities in Wi-Fi Networks of Higher Education Institutions: A Multiple Case Study

Research, Society and Development, 2019

Agile Philosophy Applied to Knowledge Management: A Systematic Literature Mapping

Information Science Journal, 2019

The Relevance of Digital Inclusion for the Elderly in Scientific Publications: A Review Based on the SCOPUS Indexer

Connection - Communication and Culture Journal, 2018

The Influence of Semiotic Engineering on the User Experience of Mobile Applications: A Reflection on the Relationship Between Semiosis and APP Development

ACTA Semiotics et Linguistics Journal, 2018

The Impact of Social Engineering on Information Security: A Corporate Management-Oriented Approach

AtoZ Journal - New Practices in Information and Knowledge, 2018

Analysis of Lean Manufacturing Adoption in IT Project Management: Case Study in a Multinational of this Segment

Project Management & Technology Journal, 2018

The Impact of Information Technology on Higher Education: Challenges of Ubiquity in Student Learning

Education & Technology Journal, 2017

Impacts of Lean Manufacturing Implementation in IT Project Management: Case Study in a Multinational in the IT Sector

Information Systems and Knowledge Management Journal, 2014

Awards and Recognitions

• **Outstanding Professor of the Information Systems Program**

Awarded by Newton Paiva University Center · Feb 2024

Recognition for excellent performance as a faculty member of the Information Systems course in the second semester of 2023.

• **Patron of the Computer Science Class 1SEM/2020**

Awarded by FUMEC University · Jul 2020

The designation of patron is an honor recognizing work and study admired by the new generation of graduating professionals.

• **Best Teamwork**

Awarded by Prosegur · Jun 2015

Award granted to the SOL Team for the development of SOL system enhancements following the Scrum agile methodology, highlighting focus on planning, development, and high-quality deliveries.

• **2nd Overall Place in the Computer Science Program at FUMEC University**

Awarded by FUMEC University · Feb 2014

Recognition for consistent academic performance and dedication to studies during undergraduate studies, achieving 2nd place in the Computer Science program in 2013.