JOAO HITOSHI SOARES CASTRO

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EDUCATION

Carnegie Mellon University May 2027
Bachelor of Science in Computer Science Pittsburgh, PA

- Additional Major in Artificial Intelligence
- Relevant Coursework: Introduction to Computer Systems, Principles of Imperative Computing, Functional Programming, Artificial Intelligence: Representation and Problem-Solving,Introduction to Machine Learning
- GPA: 3.72 / 4.0

Graded, The American School of Sao Paulo May 2023
American/Brazilian/IB High-School Diplomas São Paulo, Brazil

- IB Courses: Higher Level Computer Science, Math Analysis & Approaches, Economics, Physics

EXPERIENCES

Drumwave Inc. Summer 2025
Incoming Software Engineer Intern Mountain View, CA

- Incoming internship where I will support system development initiatives, contribute to crucial technology support, all while actively working on a dedicated project. This internship provides direct experience with technical tools and cross-functional collaboration, building a strong understanding of the tech landscape and industry.

Locaweb Company Summer 2024
Software Engineer Intern São Paulo, Brazil

- Migrated company's data infrastructure to Google Cloud Platform, enabling advanced analytics through BigQuery, Looker, and VertexAI while reducing query response times
- Developed and implemented A/B tests to validate hypotheses on user engagement, analyzing navigation patterns to propose UI/UX improvements for customer conversion funnel

Ismart Trilha Tech March 2021 - May 2023
Lead Instructor and Coordinator

- Led and collaborated with a team of 4-6 instructors to deliver a robotics and engineering curriculum to 25+ low income students per semester, overseeing project timelines and resource allocation
- Coordinated a transition from a remote to an in-person format over 3 months, redesigning lesson plans and ensuring continuity for all students

PROJECTS

SoloMuse: Real-Time Guitar Solo Generator

- Engineered LSTM-based machine learning model with chord conditioning to generate expressive guitar solos in real-time, training on 5K+ MIDI tracks with advanced data augmentation techniques
- Optimized performance-critical algorithms, reducing inference latency to ~150ms per note, enabling seamless live performance while maintaining musical coherence and user experience quality

High-Accuracy Bot Detection on Social Media

- Engineered and evaluated tree-based and neural network models to classify social media accounts, achieving a 98% testing accuracy with an optimized XGBoost classifier on a large-scale public dataset
- Conducted a comparative analysis of data imputation methods, concluding XGBoost's native handling of categorical features was a key driver of its superior performance over a standard neural network

Dynamic Memory Allocator

- Developed a custom malloc, free, calloc, and realloc in C, focusing on efficient memory management and heap utilization. Ranked 8th out of 287 students with a throughput of 14,528 kops and 74.4% memory utilization, demonstrating strong performance and code efficiency

SKILLS

- Programming Languages: Java, Python, C/C++, JavaScript, TypeScript, HTML/CSS, SQL
- Technologies: Git, Docker, AWS, GCP, React, Node.js, PostgreSQL, TensorFlow, PyTorch, Linux/Unix
- Portuguese (Native), English (Fluent), Spanish (Basic)