João Conde

joao-conde | joao-conde | joaodiasconde@gmail.com | (+351) 914074442

Education

Faculty of Engineering of the University of Porto — Porto, Portugal

BSc + MSc in Informatics and Computing Engineering (GPA 16/20) — *Sep. 2015 – July 2020*

- Master's Thesis *"Lightweight Real-time Feature Monitoring"* (19/20)
- Member of the competitive programming team

Experience

Platforme — Porto, Portugal

Software Engineer III — *Aug. 2022 – Present*

- Designed and implemented the end-to-end invoicing and drop-shipping solution for produced orders. Features automatic invoice, other certificates, and shipping waybill creation. Groups several orders and ships in bulk for cost-effectiveness.
- Responsible for onboarding new software engineers and mentoring interns.
- Developed the mobile app used by factory workers to track and update production orders' statuses and send pictures for quality assurance processes.

Software Engineer II — *Aug. 2021 – July 2022*

- Built a physical retail white label tablet app used by store employees to help clients personalize their products. Highly customizable to allow publishing for multiple merchants with custom plugins matching their brand.
- Built an Enterprise Bus API used for communication by several micro-services, supporting different bus adapters (*e.g.,* Kafka, RabbitMQ).
- Built the shipping micro-service responsible for covering the shipping lifecycle of orders (e.g. create shipments, retrieve proof of delivery, send e-mail notifications, ...). Supports multiple couriers (e.g. UPS, DHL) while syncing with Platforme's systems.

Software Engineer I — *Sep. 2020 – July 2021*

- Developed the service that connects Platforme's systems to online stores, making use of different adapters to connect to different e-commerce providers (*e.g.* Salesforce, Shopify). Responsible for keeping state synched in both systems.
- Developed a platform where Twitch streamers can customize products using a browser-based app during live streams. Viewers react to the customization via reaction buttons and the best ones could be purchased.
- Enabled horizontal scaling by splitting a monolithic app to microservices communicating via RabbitMQ, making it on average 5 times faster.
- Built an open-source PNG blending Rust crate with an API available in Rust, WebAssembly, and Python.

Feedzai — Porto, Portugal

Systems Research Engineer — *Feb. 2020 – July 2020*

- Researched and developed a lightweight method for analysis of numerical features in streaming environments and concept drift detection. Resulted in the submission and acceptance of two patents.
- The resulting algorithm was able to detect all streaming outliers with divergence measures above the 99th percentile.

Research Engineer — *July 2019 – Sep. 2019*

- Built a tool to aggregate high and low-level documentation improving search speeds by 4 times.

Projects & Contributions

Appier | *Python* - a lightweight web framework
- Implemented a module to abstract pub/sub operations on a RabbitMQ exchange.
- Implemented a weighted graph data structure and Dijkstra's algorithm to find the shortest path.

Pconvert | *Rust* - a server and client-side tool for fast PNG blending
- Developed the library from scratch with both server and client-side requirements in mind.
- Designed and implemented the multithreaded architecture.

Parrot | *Rust* - a Discord music bot
- Part of the team of three that started the project.
- Implemented some trivial bot commands, application error handling, and server settings and their serialization.

Libdsa | *C* - a library with generic data structures and algorithms
- Designed modules using the PIMPL pattern.
- Implemented common container data structures and associated algorithms.

NES Emulator | *Rust* - a Nintendo Entertainment System desktop emulator
- Researched the inner workings of the console.
- Implemented the main components of the system (CPU, PPU, MMU, *etc.*)

CHIP-8 Emulator (browser demo) | *Rust* - a CHIP-8 desktop and web emulator
- Researched the inner workings of the chip.
- Wrote the appropriate type conversions to compile the emulator to WebAssembly.

Technical Skills

Languages: JavaScript, Python, TypeScript, Rust, Java, C++, C, Prolog
Frameworks: ReactNative, ReactJS, VueJS, Flask, NodeJS
Databases: PostgreSQL, MySQL, SQLite, MongoDB
Data Engineering: Spark, Kafka, RabbitMQ

Patents & Publications

- WIPO Patent WO2022150062A1, filed July 28, 2021, and issued July 14, 2022. *"Automated feature monitoring for data streams"*
- WIPO Patent WO2022150061A1, filed July 28, 2021, and issued July 14, 2022. *"Generation of divergence distributions for automated data analysis"*
- Conde, J. (July 24, 2020). Master Thesis *"Lightweight Real-Time Feature Monitoring"*
- Conde, J., Moreira, R., Torres, J., Cardoso, P., Ferreira, H., Sampaio, M., Ascensão, J., & Bizarro, P. (July 19, 2022). *"Lightweight Automated Feature Monitoring for Data Streams"*

Extracurricular Activity

ACM FEUP Student Chapter | *Founding member of the FEUP chapter* Mar. 2020 – July 2020
- Organized multiple biweekly talks that brought together software industry professionals, professors, academic researchers, and students to discuss varying subjects (such as the pursuit of higher education).

IEEE UP Student Branch | *Computer Society Member* Feb. 2018 – July 2020
- Organized and lectured multiple programming languages workshops (*e.g.,* Java, C++).

Summer University | *Teaching Assistant* July 2019
- Taught programming fundamentals to juniors showing them how to build a *Brick Breaker* clone using Scratch.

Competitive Programming Oct. 2018 – March 2019
- Google Hash Code 2019, **9th national place.**
- IEEExtreme 2018, **5th national place.**