David Baptista

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Experience

Internship | July 2021 - August 2021
GMV *Portugal, Lisbon*

- Refactored Angular components, improving the codebase's maintainability
- Designed new components in a web application and implemented both the frontend in Angular and the backend in ASP.NET
- Extended existing functionality in a web application, using the Leaflet JavasScript library, improving end user's experience

Internship | May 2017 - July 2017, January 2018 - March 2018
VBSS *Portugal, Lisbon*

- Documented and refactored a ASP.NET Rest API
- Developed a C# WinForms GUI to be used by end users
- Designed and implemented an internal tool in C# to parse XML data
- Improved SQL queries and wrote stored procedures which improved the efficiency of a web application
- Developed and tested a user authentication system

Education

Bachelor of Science in Computer Science and Engineering, *University of Lisbon - Instituto Superior Técnico* 2018-2021
Master of Science in Computer Science and Engineering, *University of Lisbon - Instituto Superior Técnico* 2021-Present
Exchange Semester, *University of Amsterdam - Faculty of Science* Spring 2022

Academic Projects

Medical Records Management Platform

- Designed and developed a secure full stack medical record management web application using Java, Python and PostgreSQL
- Used XACML based policies for fine-grained, attributed-based access
- Implemented JSON Web Token based authentication
- Implemented hybrid encryption approach for encryption at rest of sensitive data
- Used Docker to run web servers, database and manage the networking

File Server with 2FA

- Designed and developed a file server with a separate authentication system in C, using Unix sockets
- Used a combination of stream and datagram sockets for each communication channel

Bicloin - Bicycle Rental App

- Designed and developed a bicycle rental application in Java
- Used gRPC to communicate between servers and an asynchronous data replication approach
- Implemented a quorum consensus approach for fault tolerant, consistent reads
- Used fine-grained read/write locking mechanisms and thread-safe datastructures to protect shared resources

FaaS Platform

- Designed and developed function-as-a-service cloud platform in C# using gRPC and WinForms
- Developed a Scheduler node which distributed tasks in a balanced manner among Worker nodes
- Implemented a distributed Key-Value storage system supporting reads, writes and conditional writes using a Consistent Hashing approach
- Used a gossip approach for lazy replication among storage nodes
- Implemented a distributed mutual exclusion mechanism to ensure exclusive access during conditional write operations

Technical Skills

Programming Languages	C++, Python, Java, C#, JavaScript, TypeScript, SQL
Frameworks and Libraries	Django, Flask, Spring, gRPC, Spock, Angular, React, ASP.NET, OpenMP
Other	Git, AWS, Ansible, Terraform, Docker, Linux, Make, Maven

Languages

Portuguese	Native
English	Fluent