José Filipe **Ferreira**

Computer Software Engineer · DevOps

Real, Braga, Portugal

(+351) 919 103 819 | jose.filipe.matos.ferreira@gmail.com | JoseFilipeFerreira | jfferreira

Education

Minho University
Braga, Portugal

Masters in Computer Software Engineering
2020 - 2023

- Dissertation: *Improving Digital Image Correlation in the TopoSEM software package* (18/20)
- Parallel Computing Paradigms
- Vectorization and Paralelization on Heterogenous Platforms
- Computer Vision
- System Deployment and Benchmarking (Ansible & Google Cloud Platform)

Minho University
Braga, Portugal

Bachelor in Computer Software Engineering (14/20)
2017 - 2020

- Programming Paradigms (Functional, Imperative, Object-Oriented)
- Algorithms and Complexity, Program Calculus
- Computer Architectures, Computer Graphics, Operating Systems
- Databases, Distributed Systems, Networks

Experience

Minho University
Braga, Portugal

Researcher @ MACC & INESC TEC
Oct. 2022 - Dec. 2022

- Research project "National Competence Centres in the framework of EuroHPC (EUROCC)"
- Research Scheduling Strategies alongside Vectorization on Multicore Servers

Skills

Programming C, C++, CUDA, GLSL, Bash, Python, Java, Rust, SQL
Tools Git, Linux, LaTeX, Docker, CI/CD
Languages Portuguese (native), English (C2 with Cambridge CPE)

Projects

Improving Digital Image Correlation in the TopoSEM software package
Dissertation

C++, Vectorization, Parallelization, OpenCV

- Port a novel DIC MATLAB implementation to C++, Profile using vTune and Improve Performance
- Implement a Generic Front Wave Propagation Batching Scheduler

Dotprod
GitHub Repository

C, Vectorization, CUDA

- Matrix Multiplication Optimization exploring Memory Access tuning and Vectorization
- Parallelization of the algorithm for heterogeneous servers with NVidia GPUs using CUDA

Parallel Raytracer
GitHub Repository

C++, Paralelization

- Raytracer Performance Optimization for heterogeneous servers, where a Bounding Volume Hierarchy data structure was tested to improve the rendering performance of a pool of parallel workers

Engine
GitHub Repository

C++, OpenGL, XML

- Generic Graphic Engine capable of efficiently rendering any kind of scene defined in a XML configuration file

Volunteering

ENEI 2020

Braga, Portugal

Organization Member, Graphic Designer and Photographer — *Feb. 2020*

- National Meeting of Computer Science Students focused on Talks and Workshops with various Companies
- Gained experience in Leading Teams and Organizing Large Events

CeSIUM

Braga, Portugal

Graphic Designer and Photographer — *Set. 2018 - Nov. 2020*

- Group of Software Engeneering Students from the Minho University with the goal of organizing Events, Talks and Workshops
- Gained experience working as a team in a asyncronous environment

Oficial MiEI Discord

Discord

Co-Creator and Administrator — *Feb. 2018 - PRESENT*

- A comnutity with 1900+ members focused on helping and mentoring new Software Engeneering Students