

José Filipe Ferreira

COMPUTER SOFTWARE ENGINEER · HIGH PERFORMANCE COMPUTING

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 (15/20)

2020 - 2023

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

Minho University

Braga, Portugal

BACHELOR IN COMPUTER SOFTWARE ENGINEERING

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 Multi-core Servers using C++

Skills

Programming C, C++, CUDA, GLSL, Bash, Python, Java, Rust, SQL

Tools Git, Linux, LaTeX, Docker, CI/CD, GitHub Actions

Languages Portuguese (native), English (C2 with Cambridge CPE)

Projects

Improving Digital Image Correlation in the TopoSEM software package

Masters Dissertation

C++, VECTORIZATION, PARALLELIZATION, OPENCV

18/20

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

Parallel Raytracer

University, Repository

C++, PARALLELIZATION

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

Engine

University, Repository

C++, OPENGGL, XML

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

Suitcase

Repository

DOCKER, DOCKER COMPOSE, CI/CD, GITHUB ACTIONS

- Manage containerized services running on my homelab using Docker Compose
- Self-host a calendar server, a file share server, a media streaming server, a book management server and more
- Publish my own services through dockerhub in a CI/CD pipeline

Volunteering

ENEI 2020

ORGANIZATION MEMBER, GRAPHIC DESIGNER AND PHOTOGRAPHER

Braga, Portugal

Jul. 2019 - 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

GRAPHIC DESIGNER AND PHOTOGRAPHER

Braga, Portugal

Set. 2018 - Nov. 2020

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

Official MiEI Discord

CO-CREATOR AND ADMINISTRATOR

Discord

Feb. 2018 - Present

- A community with 1900+ members focused on helping and mentoring new Software Engineering Students