

# João Pedro Fonseca

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## Experience

### Capgemini Engineering



ASSOCIATE ENGINEER R&D

March 2022-Present

- Contributions to CMU Portugal Floyd Project
  - D2.2: Business models and stakeholders liaison
  - D3.1: Overall System Architecture
- Contributions to the OREOS Project
  - Study on O-RAN and RIC compliant Open-source solutions for Next Generation Networks
- Contributions to the 6GBRAINS project
  - Design of the Topology-aware Industry-grade Network Slice Manager (Integration of ONAP and UWS Slice Manager)

### Instituto de Telecomunicações Aveiro



RESEARCH GRANT UNDER THE SCOPE OF THE H2020 5GROWTH PROJECT

October 2019-February 2022

- Design of the architecture for network slice orchestration across administrative domains under the 5Growth Project (funded by H2020)
- Analysis of several Technical Reports and Specifications (3GPP, ETSI) to improve the Network Slicing platform used by the 5Growth Project under the ICT-17 Integration group
- Contributions the 5Growth Project project deliverables
  - D2.1: Initial design of 5G End-to-End Service Platform
  - D2.3: Final Design and Evaluation of the innovations of the 5G End-to-End Service Platform
  - D3.5: Final version of software implementation for the platform
  - D4.4: Final validation and verification report
- Virtualization Infrastructure Management and Orchestration of several projects using Openstack, Docker, Proxmox, Juju Charms among other tools
- Contributions to ETSI OSM MANO release 9 & 10
- Monitoring of bachelor and master students for faster interactions with the OSM software stack.

## Education

### University of Minho, Aveiro and Porto



MAP DOCTORAL PROGRAM IN COMPUTER SCIENCE

Aveiro 2021-Present

- PhD Thesis proposal: *Vertical-aware and Dynamic System Orchestration*
- Associated Research Projects: H2020 5Growth, CMU Portugal FLOYD project, P2020 OREOS, H2020 6G BRAINS

### Universidade de Aveiro



MSC IN COMPUTER AND TELEMATICS ENGINEERING

Aveiro 2021

- Master Thesis on *5G Interdomain Orchestration Mechanisms for Flexible Vertical Services Deployment*, Grade 17/20.

## Publications

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### ResearchGate

#### Hands-on Interdomain network slicing framework and evaluation [ARTICLE](#)

AUTHOR

João Fonseca et al., Multi-Domain Solutions for the Deployment of Private 5G Networks, in Internet Technology Letters, 2022, doi: 10.1002/itl2.394

#### Dynamic Inter-domain Network Slicing for Verticals in the 5Growth Project [ARTICLE](#)

AUTHOR

João Fonseca et al., Dynamic Inter-domain Network Slicing for Verticals in the 5Growth Project, Accepted in the MOBISLICE IV workshop part of the IEEE NFV SDN 2021, doi:10.1109/NFV-SDN53031.2021.9665037

#### Multi-Domain Solutions for the Deployment of Private 5G Networks [ARTICLE](#)

CO-AUTHOR

X. Li et al., Multi-Domain Solutions for the Deployment of Private 5G Networks, in IEEE Access, vol. 9, pp. 106865-106884, 2021, doi: 10.1109/ACCESS.2021.3100120

## Awards

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Dec 2020 **Outstanding Technical Contributor(Release 9)**, ETSI OSM Community

## Projects

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#### ETSI-OSM(Open Source MANO) [LINK](#)

CONTRIBUTOR



- Patch bugs present on the Open Source NFV Management and Orchestration (MANO) software stack
- Give support to the community through the official channels
- Patch bugs related to the CI/CD solution used by the project

#### Awesome Hacking Locations [LINK](#)

MANTAINER

List of Awesome Hacking Locations, organised by Country and City, listing if it features power and wifi. Inspired by the Awesome Lists thing.

## Presentations

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#### Workshop: "Mastering the unofficial UA Thesis LaTeX Template" [SLIDES](#)

APR 2022, UNIVERSIDADE DE AVEIRO, AVEIRO

Workshop to help students of the University write their thesis quickly and without issues

#### Dynamic Inter-domain Network Slicing for Verticals in the 5Growth Project [SLIDES](#) [PRESENTATION](#)

NOV 2021, IEEE NFV-SDN 2021-4TH WORKSHOP ON MOBILITY SUPPORT IN SLICE-BASED NETWORK CONTROL FOR HETEROGENEOUS ENVIRONMENTS, ONLINE

#### Empowering verticals with autonomic service deployment by providing Interdomain support [SLIDES](#)

JAN 2020, 28º SEMINÁRIO DA REDE TEMÁTICA DE COMUNICAÇÕES MÓVEIS, LISBOA

#### Workshop: "O sistema de versões GIT" [SLIDES](#)

OCT 2019, DIA EDUCATIVO DA ESTGA ÁGUEDA, AVEIRO

Lectured a workshop on GIT, the version control system.

## Software Engineering

- Bugtracking and Development: Bugzilla, Gerrit, Jenkins and Git
- Deployment and Automation with Ansible, Juju Charms(Reactive and Native) and Bash scripting
- Virtualization: Docker and Docker-Compose, LXC
- Orchestration: Openstack and Proxmox
- Experience using  $\text{\LaTeX}$  for technical writing

## Networking and Monitoring

- Network analysis: Wireshark, nmap, mtr, iperf
- DNS Security: Stubby

## Linux/Unix

- Linux Distros: Antergos, Archlinux, Debian, Manjaro, Ubuntu, Fedora, CentOS
- Display Servers: Xorg, Wayland
- Btrfs Enthusiast
- Analysis and Debugging : SystemD(journalctl, dmesg)

## **GLUA - Grupo de Linux da Universidade de Aveiro**



2017-PRESENT, SENIOR MEMBER AND FORMER COORDINATOR

- Providing Technical Support for the University of Aveiro community, in the University ICT department, on a weekly basis(2019-2020):
  - Installing incompatible drivers
  - Managing packages conflicts
  - Compiling specific Linux Kernels
  - Debugging issues with the WIFI configuration
  - others
- Maintainer for the GLUA's FOSS Public Mirror Service(glua.ua.pt/pub):
  - Configuration of nginx, rsync, etckeeper, and automatic notification email on service failure services
  - Developer of the Mirrors webpage(written in PHP)
- Human resources management within the GLUA's projects and initiatives responsible for the GLUA's projects.
- Organizer for workshops and talks promoting GLUA's team development on different subjects.

## **Erasmus Student Network - Aveiro**



2016-PRESENT, BUDDY

- Fomenting the integration of Erasmus students within Aveiro city and local costumes

## **AAUAV- Associação Académica da Universidade de Aveiro**



2017 ,COLABORATOR

- Organization of activities on different areas of action(cultural, educational, etc).

## **ENEI- Encontro Nacional de Estudantes de Informática**



ORGANIZING COMMITTEE(2014,2016) AND AMBASSADOR(2018,2019)

- Member of the team responsible for the logistics of the event
- Member of the team responsible for the Streaming the event

## **Núcleo de Estudantes de Engenharia de Computadores e Telemática-NEECT**



2014-2017, CORE MEMBER

- Organization of Workshops and Talks amongst other events
- Organization of ENEI 2014 and 2016 events