



João Pedro Dias

ENGINEER. DEVELOPER. RESEARCHER. AMATEUR PHOTOGRAPHER.

Porto, Portugal

✉ jpmdias@fe.up.pt | 🏠 jpdias.me | 📷 jpdias | 🌐 joaopdias | 🐦 jpd1as | 📞 jpdias

Summary

Current Researcher at INESC TEC and pursuing a PhD degree in Informatics Engineering. Graduated from the Integrated Masters in Informatics and Computing Engineering, I'm passionate about technology, with a special focus on security and privacy, web development, data mining & Internet of Things. Besides that, I'm also an amateur photographer, football player, book lover and science addict.
ORCID: [0000-0001-9066-6436](https://orcid.org/0000-0001-9066-6436)

Education

Doctoral Program in Informatics Engineering – ProDEI (PhD)

Porto, Portugal

FACULTY OF ENGINEERING OF THE UNIVERSITY OF PORTO (FEUP)

2016–Exp. 2020

- Work under Supervision of Hugo Sereno Ferreira, PhD and Co-Supervision of João Pascoal Faria, PhD

Master in Informatics and Computing Engineering – MIEIC (MSc)

Porto, Portugal

FACULTY OF ENGINEERING OF THE UNIVERSITY OF PORTO (FEUP)

2011–2016

- GPA: 15 out of 20
- Volunteer at *Semana Profissão: Engenheiro (SPE) 2014 & 2016*

Sciences and Technologies

Amarante, Porto, Portugal

EXTERNATO DE VILA MEÃ

2008–2011

- GPA: 17 out of 20

Work Experience

Faculty of Engineering of the University of Porto

Campus FEUP, Porto, Portugal

INVITED ASSISTANT PROFESSOR

Fev. 2017 – Today

- Teaching practical lectures of Operating Systems and Software Development Laboratories.

INESC TEC – Institute for Systems and Computer Engineering, Technology and Science | CSIG – Centre for Information Systems and Computer Graphics

Campus FEUP, Porto, Portugal

RESEARCHER

May 2017 – Today

- Researching in the area of Internet of Things, with special focus on Blockchain and Healthcare applications, in the scope of the project NanoSTIMA: *Macro-to-Nano Human Sensing: Towards Integrated Multimodal Health Monitoring and Analytics*.
- Project details: nanostima.inesctec.pt

LIACC – Artificial Intelligence and Computer Science Laboratory

University of Porto, Porto, Portugal

RESEARCHER

Sept. 2016 – Apr. 2017

- Researching data representation and data mining applications on railway transportation systems in the scope of the project PEDDIR: *Weight in Motion and Wheels Defect Detection*.
- Technologies: **MongoDB**, **Python** and **Web Development** | Project details: www.peddir.eu & www.in2rail.eu

ShiftForward, S.A.

Porto, Portugal

SUMMER ENGINEERING INTERN

Jul. 2015 – Aug. 2015

- Development of a Deploy Logger Service, a service for documenting and recording the release of new product versions over time.
- Technologies: **Scala** and **Backbone.js** | Project details: shiftforward.github.io/malamute

Centro Hospitalar do Tâmega e Sousa, E.P.E.

Penafiel, Porto, Portugal

IT DEPARTMENT INTERNSHIP

Jul. 2014 – Aug. 2014

- Development of an expedient management system for replacing the existent system based on paper archives.
- Technologies: **MySQL** and **PHP**

Teaching

INTEGRATED MASTER IN INFORMATICS AND COMPUTING ENGINEERING · FEUP · 5 YEARS

2018 - 2019 *Invited Assistant Professor, Software Development Laboratory* · 4th year (First Semester)
– 3 hours *per week*

2018 - 2019 *Invited Assistant Professor, Operating Systems* · 2nd year (Second Semester)
– 4 hours *per week*

2017 - 2018 *Invited Assistant Professor, Operating Systems* · 2nd year (Second Semester)
– 4 hours *per week* · 2 classes · 45 students

Publications

CONFERENCE ARTICLES (PEER-REVIEWED)

BLOCKCHAIN-BASED PKI FOR CROWDSOURCED IOT SENSOR INFORMATION *Porto, Portugal*
GUILHERME PINTO, JOÃO PEDRO DIAS AND HUGO SERENO FERREIRA 2018

14th International Conference on Information Assurance and Security { DOI: [To Appear](#) }

A BLOCKCHAIN-BASED SCHEME FOR ACCESS CONTROL IN E-HEALTH SCENARIOS *Porto, Portugal*
JOÃO PEDRO DIAS, HUGO SERENO FERREIRA AND ÂNGELO MARTINS 2018

14th International Conference on Information Assurance and Security { DOI: [To Appear](#) }

DYNAMIC ALLOCATION OF SERVERLESS FUNCTIONS IN IOT ENVIRONMENTS *Bucharest, Romania*
DUARTE PINTO, JOÃO PEDRO DIAS AND HUGO SERENO FERREIRA 2018

16th IEEE International Conference on Embedded and Ubiquitous Computing { DOI: [10.1109/EUC.2018.00008](#) }

A REACTIVE AND MODEL-BASED APPROACH FOR DEVELOPING INTERNET-OF-THINGS SYSTEMS *Coimbra, Portugal*
JOÃO PEDRO DIAS, JOÃO PASCOAL FARIA AND HUGO SERENO FERREIRA 2018

7th Software Engineering Doctoral Symposium (SEDES 2018) – Part of the 11th International Conference on the Quality of Information and Communications Technology (QUATIC'2018) { DOI: [10.1109/QUATIC.2018.00049](#) }

A BRIEF OVERVIEW OF EXISTING TOOLS FOR TESTING THE INTERNET-OF-THINGS *Västerås, Sweden*
JOÃO PEDRO DIAS, FLÁVIO COUTO, ANA C.R. PAIVA, HUGO SERENO FERREIRA 2018

First International Workshop on Verification and Validation of Internet of Things (VWIOT 2018) – Part of the 11th IEEE Conference on Software Testing, Validation and Verification (ICST 2018) { DOI: [10.1109/ICSTW.2018.00035](#) }

PATTERNS FOR THINGS THAT FAIL *Vancouver, Canada*
ANTÓNIO RAMADAS, GIL DOMINGUES, JOÃO PEDRO DIAS, ADEMAR AGUIAR, HUGO SERENO FERREIRA 2017

24th Conference on Pattern Languages of Programs (PLoP 2017) { DOI: [To Appear](#) } {PDF}

TOWARDS A FRAMEWORK FOR AGENT-BASED SIMULATION OF USER BEHAVIOUR IN E-COMMERCE CONTEXT *Porto, Portugal*
DUARTE DUARTE, JOÃO PEDRO DIAS, HUGO SERENO FERREIRA AND ZAF. KOKKINOGENIS 2017

15th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS'17) { DOI: [10.1007/978-3-319-61578-3_3](#) }

AUTOMATING THE EXTRACTION OF STATIC CONTENT AND DYNAMIC BEHAVIOUR FROM E-COMMERCE WEBSITES *Madeira, Portugal*
JOÃO PEDRO DIAS AND HUGO SERENO FERREIRA 2017

8th International Conference on Ambient Systems, Networks and Technologies (ANT'17) { DOI: [10.1016/j.procs.2017.05.355](#) }

A HANDS-ON APPROACH ON BOTNETS FOR BEHAVIOR EXPLORATION *Porto, Portugal*
JOÃO PEDRO DIAS, JOSÉ PEDRO PINTO AND JOSÉ MAGALHÃES CRUZ 2017

2nd International Conference on Internet of Things, Big Data and Security (IoTBDs 2017) { DOI: [10.5220/0006392404630469](#) }

INFORMAL PUBLICATIONS & OTHERS

A PRELIMINARY STUDY ON MESH NETWORKS AND IOT *Porto, Portugal*
FILIPA BARROS, LUIS SOUSA, JOÃO PEDRO DIAS AND HUGO SERENO FERREIRA 2018

11th Meeting of Young Researchers of University of Porto (IJUP 2018)

AUTOMATING THE EXTRACTION OF STATIC CONTENT AND DYNAMIC BEHAVIOUR FROM E-COMMERCE WEBSITES

JOÃO PEDRO DIAS AND HUGO SERENO FERREIRA

10th Meeting of Young Researchers of University of Porto (IJUP 2017)

Porto, Portugal

2017

A HANDS-ON APPROACH ON BOTNETS FOR A LEARNING PURPOSE

JOÃO PEDRO DIAS, JOSÉ PEDRO PINTO AND JOSÉ MAGALHÃES CRUZ

9th Meeting of Young Researchers of University of Porto (IJUP 2016)

Porto, Portugal

2016

DISSERTATIONS

REVERSE ENGINEERING STATIC CONTENT AND DYNAMIC BEHAVIOUR OF E-COMMERCE SITES FOR FUN AND PROFIT

SUPERVISED BY HUGO SERENO FERREIRA | GRADE OF 17 OUT OF 20.

Master's Dissertation, Faculty of Engineering, University of Porto { ID: 10216/85374 }

Porto, Portugal

2016

Conference Organization

2018 **Student Volunteer**, XP 2018 – 19th International Conference on Agile Software Development

Porto, Portugal

2018 **Conference Organization Chair**, DSIE'18 – 13th Doctoral Symposium in Informatics Engineering

Porto, Portugal

2018 **Advisor Board Member**, Talk a Bit – Student Organized Techn Conference, 6th Edition (2018)

Porto, Portugal

2017 **Student Volunteer (Media Coverage)**, EPIA 2017 – 18th EPIA Conference on Artificial Intelligence

Porto, Portugal

2017 **Web Communication Co-chair**, ACM CarSys 2017 – The Second ACM International Workshop on Smart, Autonomous, and Connected Vehicular Systems and Services, part of the The 23rd Annual International Conference on Mobile Computing and Networking (MobiCom 2017)

Utah, USA

2017 **Advisor Board Member**, Talk a Bit – Student Organized Tech Conference, 5th Edition (2017)

Porto, Portugal

2016 **Conference Chair**, Talk a Bit – Student Organized Tech Conference, 4th Edition (2016)

Porto, Portugal

2016 **Web Communication Co-chair**, 2016 IEEE 19th International Conference on Intelligent Transportation Systems (ITSC 2016)

Rio de Janeiro, Brazil

2014 **Student Volunteer**, Inter-University Programming Marathon (MIUP 2014)

Porto, Portugal

2014 **Student Volunteer**, INForum - Symposium on Informatics (INForum 2014)

Porto, Portugal

Educational & Scientific Activities

MASTER'S DISSERTATION CO-SUPERVISING

2017 **DYNAMIC ALLOCATION OF SERVERLESS FUNCTIONS IN IoT ENVIRONMENTS by Duarte**

Porto, Portugal

– 2018 **Pinto, Supervised by Hugo Sereno Ferreira, PhD**, Masters in Informatics and Computing Engineering, Faculty of Engineering, University of Porto { ID: 10216/114149 }

2017 **BLOCKCHAIN AS A PKI FOR OWNERSHIP CONTROL OF IoT DEVICES by Guilherme Pinto,**

Porto, Portugal

– 2018 **Supervised by Hugo Sereno Ferreira, PhD**, Masters in Informatics and Computing Engineering, Faculty of Engineering, University of Porto { ID: 10216/114144 }

2016 **INTEROPERABILITY IN SOFTWARE APPLICATIONS FOR SMART CITIES: TOWARDS A**

Porto, Portugal

– 2017 **REFERENCE ARCHITECTURE by José Pedro Pinto, Supervised by Rosaldo Rossetti, PhD**, Masters in Informatics and Computing Engineering, Faculty of Engineering, University of Porto { ID: 10216/107529 }

PROGRAM COMMITTEES & REVIEWS

2017	Program Committee (Senior) Member , Talk A Bit – Student Organized Tech Conference, 7 th Edition (2019)	Porto, Portugal
2017	Program Committee Member , IEEE S3C 2017 - 2017 IEEE Summer School on Smart Cities	Natal, Brazil
2017	IEEE Intelligent Vehicles Symposium (IEEE IV'17) , Reviewer	California, USA
2017	IEEE 20th International Conference on Intelligent Transportation Systems (IEEE ITSC 2017) , Reviewer	Yokohama, Japan

Invited Talks & Workshops

Information Systems and Software Engineering Seminars (SESI & SES)

HOSTED AT FACULTY OF ENGINEERING, UNIVERSITY OF PORTO FOR STUDENTS OF THE MIEIC & MESW DEGREES

- **Seminar:** *How to Kill Your Privacy and IoT Your Home Along the Way.*

Lisboa, Portugal

Sept. 2017

Pixels Camp 2017

HOSTED BY BRIGHT PIXEL AND BETA-1

- **Workshop:** *PiHeadquarters or How to Take Control of your House with Raspberry Pi and Docker.*

Lisboa, Portugal

Sept. 2017

OPOSEC Meetup: [0x33] – The Meet

HOSTED BY BLIP.PT

- **Presentation:** *A hands-on approach on botnets for a learning purpose.*

Porto, Portugal

Apr. 2016

ShARE World Seminar 2015 – “Europe vs. Asia: Grass Is Always Greener On The Other Side”

HOSTED BY SHARE GLOBAL STUDENT THINK TANK

- **Workshop:** *How To Create Your First Personal Webpage.*

FEUP, Porto, Portugal

March 2015

Additional Training

2018	1st UPTEC School on the Future of Computing , UPTEC – Science and Technology Park of University of Porto	FBAUP, Porto, Portugal
2017	CyberTalk: Security - Business Enablement , Multicert – Electronic Certification Services, S.A.	FEUP, Porto, Portugal
2017	Project Management , ERASMUS+ Mobility for teaching	FEUP, Porto, Portugal
2016	AWS Technical Essentials Online , Amazon Web Services – Training and Certification	Online
2015	Practical Workshop in Agile Project Management , Strongstep - Innovation in Software Quality	UPTEC, Porto, Portugal
2015	CERN Spring Campus , CERN - European Organization for Nuclear Research	Lisbon, Portugal
2014	M101JS: MongoDB for Node.js Developers , MongoDB University	Online

Skills & Languages

Programming	Python • Node.JS • C/C++ • Scala • Java • C# • PHP
Web Technologies	HTML5 • CSS • JavaScript • Laravel(PHP) • Flask(Python) • Bootstrap(CSS) • jQuery(JS)
Databases	MySQL • PostgreSQL • InfluxDB • MongoDB
Others	Arduino • Git • Android • Windows Apps • Docker • LaTeX
Languages	Portuguese (Mother-tongue) • English

Pro Bono Activity

ACADEMIC

IEEE University of Porto Student Branch

STUDENT MEMBER

Porto, Portugal

2012 – Today

EXECUTIVE COMMITTEE (SECRETARY)

2013 – 2015

- As a voluntary member I had organized and co-organized some workshops (C#, Photography, \LaTeX , Web Development) and other events including *IEEE Day*, *IEEEExtreme* and *IEEEmadC*.
- As secretary I was also responsible for maintain the minutes of all meetings and other paperwork.

HUMANITARIAN

Luz da Vida Youth Group

Amarante, Porto, Portugal

FOUNDER MEMBER

2009 – 2011

- Founder and former active member, I had taken part of large number of activities on behalf of the village community.

Honors & Awards

INTERNATIONAL

2017	427th (of 3350) , IEEEExtreme – 24h Programming Competition 11.0, ieee.org/xtreme	Online – Porto, Portugal
2017	847th (of 2815) , Google Hash Code 2017, hashcode.withgoogle.com	Online – Porto, Portugal
2015	189th (of 2477) , IEEEExtreme – 24h Programming Competition 9.0, ieee.org/xtreme	Online – Porto, Portugal
2014	Honorable Mention , IEEEEmadC – Mobile Application Dev. Contest, ieeemadc.org	Online – Porto, Portugal
2013	126th (of 2570) , IEEEExtreme – 24h Programming Competition 7.0, ieee.org/xtreme	Online – Porto, Portugal
2013	2nd Place , European BEST Engineering Competition, ebec.best.eu.org	Warsaw, Poland

DOMESTIC

2018	6th (of 31 Participants) , CIBER PERSEU 2018 Portuguese Army Exercise – Capture The Flag component by diateam, exercito.pt	Portuguese Military Academy, Lisbon, Portugal
2011	1st Place , PmatE Mat12 – Mathematics Competition, pmate.ua.pt	University of Aveiro, Portugal
2009	2nd Place , PmatE Fis12 – Physics Competition, pmate.ua.pt	University of Aveiro, Portugal

Interests & Hobbies

Football Player

F.A.D.A. Amateur League

GRUPO DESPORTIVO E RECREATIVO DE TRAVANCA

2016 – 2017

Amateur Photographer

Anywhere

NATURE, LANDSCAPE, URBAN EXPLORATION, EVENTS

2008 – Today

- 2018 - Finalist at the Norte Multimédia Contest - Photography Category
Promoted by the Norte Portugal Regional Coordination and Development Commission (CCDR-N)
- 2018 - Finalist at the PORTUGAL NUM ISQUEIRO BIC® Contest
Promoted by the I Love My BIC initiative by BIC Portugal
- 2010 - Exposition at Movimento d'Artes, Travanca, Amarante, Portugal
Promoted by the Cooperativa Cultural Vinha das Artes