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PROFILE

With experience in multiple fields, including leadership, software development and research, I am a versatile and enthusiastic individual that wants to learn and take on new challenges.

My passion is to lead the development of innovative and powerful software solutions, ranging all ends of the development spectrum, including architecture, implementation, testing, continuous delivery and maintenance. I am always pushing myself to learn new concepts and methodologies, namely related with **Leadership, Web development, DevOps, Big Data and Machine learning**.

EXPERIENCE

Team Leader for Partnering Diagnostics and Data Analysis

June 2017 - present

Bosch Thermotechnology, Aveiro, Portugal

- Lead a **team of 8 members** to build innovative solutions for smart diagnostics and predictive maintenance of HVAC **connected appliances**, being the **lead engineer and architect** of the solution to collect, store, analyse, extract insights and visualize operational data timeseries;
- **Represent team** and **partnering** closely with other teams towards fulfilling organisation needs;
- Support and **coach** team members in career development, also recruiting new team members.

★ Team Management | Technical Leadership | Software Design | Development | Testing | CI/CD | Coaching | Career Development | Hiring | Public Speaking | Technical Writing

☑ Scrum | Java | Python | Spring Boot | RabbitMQ | Siddhi | MongoDB | MySQL | Kubernetes | Docker | Jenkins | Groovy | ELK | SonarQube | Checkmarx

📍 HVAC | IoT

Chief Technology Officer (CTO)

February 2014 - May 2017

BMD Software Lda., Aveiro, Portugal

- Lead a **team of 4 developers** with **in-depth contributions** in software **architecture, development, testing, deployment, maintenance** and **customer support** of two **high-demanding web-based products**:
 - Web-based **medical imaging** platform for patient images storage, visualisation, printing and sharing, enabling simple and efficient workflows in hospitals, clinics and laboratories;
 - Biomedical **text mining** web services targeting automatic extraction of information (entities and their relations) from scientific texts for pharmaceuticals and research centers.
- Work package responsible in the HemoSpec European project, leading a team to develop a **machine learning-based decision model** for sepsis diagnosis;
- Responsible for contacting new customers and maintaining valuable relationships for the company;
- Representing the company in national and international conferences, workshops and fairs;
- Design, setup and maintain the technological infrastructure for internal management, development and maintenance of the company.

★ Technical Leadership | Software Design | Development | Hiring | Public Speaking | Technical Writing | Customer Engagement | Customer Support

☑ Java | Play Framework | Javascript | HTML | CSS | Node.js | NW.js | MySQL | Memcached | Docker | Text mining | NLP | Machine Learning | Image processing | DICOM

📍 Medical Imaging | Bioinformatics

Ph.D. Researcher

September 2008 - January 2014

IEETA, University of Aveiro, Aveiro, Portugal

- Developed **6 web-based** applications for biomedical **information extraction**, namely automatic named entity recognition and assisted documents curation;
- Delivered and contributed to more than 20 publications in reference international journals and conferences;
- Contributed to 4 European and Portuguese research projects;
- Directed the master thesis work of 4 students;
- **2 six month internships** at Erasmus Medical Center (Rotterdam, Netherlands) and European Bioinformatics Institute (Cambridge, United Kingdom)
- Responsible for the maintenance of the technological infrastructure during three years.

★ Research | Software Design | Software Development | Mentoring | Public Speaking | Writing

☑ Java | Text mining | Natural Language Processing (NLP) | Named Entity Recognition (NER) | Machine Learning | Mallet | Javascript | HTML | CSS | MySQL

📍 Bioinformatics

EXPERIENCE

Teacher

University of Aveiro, Aveiro, Portugal

February 2011 - February 2012

- **Programming I:** Problem solving and data structures in Java.
- **Programming II:** Data structures and algorithms in Java.

★ Teaching | Evaluation | Public Speaking

Java

University

EDUCATION

Doctor of Philosophy (Ph.D.) in Computer Science

Universities of Minho, Aveiro and Porto, Portugal

September 2009 - February 2014

- **Subject(s):** Mining biomedical information from scientific literature.
- **Supervisor(s):** José Luís Oliveira and Sérgio Matos

Master of Science (M.Sc.) in Computer and Telematics Engineering

University of Aveiro, Portugal

September 2006 - December 2008

- **Subject(s):** Java SE/EE, Web services, Distributed systems, Operating Systems, Distributed artificial intelligence, Computer architecture, Software engineering and architecture, and Pattern recognition.
- **Grade:** 15 out of 20

Bachelor of Science (B.Sc.) in Computer and Telematics Engineering

University of Aveiro, Portugal

September 2003 - July 2006

- **Subject(s):** Object-oriented programming, Functional and logic programming, Stochastic methods, Formal languages and automata, System analysis, Databases, Network architecture, Artificial Intelligence, and Mobile applications.
- **Grade:** 13 out of 20

CERTIFICATIONS

Certified Professional for Software Architecture

iSAQB – International Software Architecture Qualification Board

February 2019

Cisco Certified Network Associate

Cisco

June 2007

TRAINING COURSES

Management 3.0

Bosch

November 2018

Communication and Cooperation

Bosch

October 2018

Leadership Fundamentals

Bosch

June 2018

Goal and Performance Dialogue

Bosch

January 2018

Knowledge about Human Resources Processes

Bosch

July 2018

VOLUNTEER EXPERIENCE

Conference organizer

Data Science Portugal (DSPT)

March 2018 - present

Organization of the DSPT Day conference (2018 and 2019 editions), contributing to overall planning, management, speakers engagement and hosting.

AWARDS

➤ 3rd prize on Hackacity Porto (2019)

➤ **Hackacity is a smart cities** hackathon that aims to test big data and promotes its use to develop solutions that will have an impact in the city. Participated as a team by building a personalized **Quality of Life index** solution.

➤ Best poster (2013)

➤ **David Campos**, Sérgio Matos, José Luís Oliveira. Neji: a tool for heterogeneous biomedical concept identification. BioLINK SIG, ISMB/ECCB, Berlin, Germany, July 2013.

➤ Best student paper (2011)

➤ **David Campos**, Sérgio Matos, José Luís Oliveira. A machine learning-based tool for biomedical entity recognition. III Jornadas Galegas de Bioinformática, Vigo, Spain, September, 2011.

SKILLS

Leadership

- ↓ **Communication, coaching and feedback**
- ↓ **Task and risk management**
- ↓ **Recruiting and hiring**
- ↓ **Methodologies:** Agile Scrum
- ↓ **Tools:** JIRA, Confluence, Phabricator and GitHub

General

- ↓ **Languages:** Java, C#, C, C++, PHP, ActionScript and Scala.
- ↓ **Web:** HTML, CSS and JavaScript.
- ↓ **Services:** SOAP and REST (with security).
- ↓ **Message-broker:** RabbitMQ and Kafka.
- ↓ **Event processing:** Siddhi and Flink.
- ↓ **Databases:** MySQL, MongoDB and PostgreSQL.
- ↓ **Testing:** SonarQube and Checkmarx.
- ↓ **Logging and Monitoring:** Elastic and Kibana.
- ↓ **Source Code Management:** Git, GitFlow and SVN.
- ↓ **Continuous Integration:** Jenkins and Groovy.
- ↓ **OSes:** Mac OS, Linux and Windows.

Server-side

- ↓ **Environments:** Java, Node.js, PHP and .Net
- ↓ **Servers:** Nginx, Apache, Jetty, Netty, Tomcat and IIS
- ↓ **Frameworks:** Spring Boot, Play Framework, Google Web Toolkit (GWT) and Symphony
- ↓ **Build management:** Maven, Ant and SBT
- ↓ **Memory databases:** Memcached and Redis
- ↓ **Indexing:** Lucene
- ↓ **Database persistence:** JPA (Hibernate and TopLink)
- ↓ **Performance optimization, debugging and security**

Client-side

- ↓ **Workflow and package management:** SBT, NPM, Grunt and Bower
- ↓ **Desktop:** NW.js and Electron
- ↓ **Libraries:** jQuery, Bootstrap, Async.js, Hammer.js, Underscore.js, Kinetic.js, Typeahead.js, jsPDF, DataTables, Handlebars, among others.
- ↓ **Performance optimization, debugging and security**

Virtualization and Containerization

- ↓ **Virtualization:** VMWare, Amazon Web Services (AWS) EC2 and Open Stack
- ↓ **Containerization:** Kubernetes, Docker Swarm, Docker

Concepts

- ↓ **Machine learning:** Conditional Random Fields (CRFs), Support Vector Machines (SVMs), Hidden Markov Models (HMMs), Maximum Entropy Markov Models (MEMMs), Naïve Bayes (NBs), Neural Networks (NNs), Logistic Regression, among others.
- ↓ **Text mining:** information extraction (named entity recognition, normalization, disambiguation and relation mining) and retrieval.
- ↓ **Semantic web:** resources integration, ontologies and semantic search.
- ↓ **Medical imaging:** DICOM, image processing and visualization, and medical interaction workflows
- ↓ **Biomedical:** domain knowledge and resources (databases and ontologies).

Software engineering

- ↓ Requirements analysis, system modeling, project planning and management.

Design

- ↓ Good design skills in print, screen and web: basic know-how in Illustrator, InDesign and Photoshop.

Languages

- ↓ **Portuguese** (native), **English** (proficient) and **Spanish** (independent).

Miscellaneous

- ↓ **Driver's license:** Category B (Portugal).

SELECTED TOOLS FROM 7

- **PACScenter** 2016
↓ **Description:** Complete web-based medical imaging platform for patient studies storage, visualization and sharing, enabling simple and efficient workflows.
↪ <https://demo.bmd-software.com/pacscenter>
- **Neji** 2015
↓ **Description:** Open source, flexible, easy and powerful framework and tool for faster biomedical concept recognition. It allows automatic extraction of dozens of heterogeneous biomedical concepts using the most appropriate and optimized techniques.
↪ <https://github.com/BMDSoftware/neji>
- **Egas** 2014
↓ **Description:** Web-based platform for biomedical text mining and collaborative curation, supporting manual and automatic annotation of concepts and relations.
↪ <https://demo.bmd-software.com/egas>

SELECTED PROJECT FROM 6

- **HemoSpec** 2013 - 2018
↓ **Goal:** Develop a highly innovative technological platform for early, fast and reliable medical diagnosis of sepsis, using a minimal amount of patient's blood.
↓ **Role:** Leader of the work package responsible for developing the decision model, the centralized knowledge-base and the infrastructure that enables communication between the several processing modules.
↪ <http://www.hemospec.eu>

SELECTED PUBLICATIONS FROM 35

- **Books**
 - ↓ **David Campos.** Mining biomedical information from scientific literature. Ph.D. Thesis, University of Aveiro, February 2014
- **Book chapters**
 - ↓ **David Campos, Sérgio Matos, José Luís Oliveira.** Biomedical Named Entity Recognition: A Survey of Machine-Learning Tools. Theory and Applications for Advanced Text Mining, Shigeaki Sakurai (Ed.), InTech, p. 175-195, November 2012
- **International journals**
 - ↓ **David Campos, Jóni Lourenço, Sérgio Matos, José Luís Oliveira.** Egas: a collaborative and interactive document curation platform. Database, vol. 2014, no. 10.1093, p. 1-12, June 2014 (**IF 2014: 3.372**)
 - ↓ **David Campos, Sérgio Matos, José Luís Oliveira.** A modular framework for biomedical concept recognition. BMC Bioinformatics, vol. 14, no. 281, September 2013 (**IF 2012: 3.024**)
 - ↓ **Tiago Nunes, David Campos, Sérgio Matos, José Luís Oliveira.** BeCAS: biomedical concept recognition services and visualization. Bioinformatics, vol. 29, no. 15, p. 1915-1916, June 2013 (**IF 2012: 5.323**)
 - ↓ **David Campos, Sérgio Matos, José Luís Oliveira.** Gimli: open source and high-performance biomedical name recognition (Highly accessed). BMC Bioinformatics, vol. 14, no. 1, p. 54, February 2013 (**IF 2012: 3.024**)

SELECTED TALKS FROM 14

- ↓ **Workshop on how to extract information from operational time series.** ConnectFest 2019, Porto, Portugal, September 2019
- ↓ **Generate value from operational data of heating appliances.** DSPT#33, Aveiro, Portugal, June 2018
- ↓ **PACScenter: a complete platform for collaborative medical imaging.** Workshop “Aplicações da Análise de Imagem e a Visão por Computador”, Guimarães, Portugal, September 2016
- ↓ **Assisted mining and curation of genomic variants using Egas.** Fifth BioCreative Challenge Evaluation Workshop, Sevilla, Spain, September 2015
- ↓ **Chemical name recognition with harmonized feature-rich conditional random fields.** Fourth BioCreative Challenge Evaluation Workshop, Bethesda, Maryland, USA, October 2013
- ↓ **Neji: a tool for heterogeneous biomedical concept identification.** BioLINK SIG, ISMB/ECCB, Berlin, Germany, July 2013
- ↓ **Workshop on biomedical concept recognition,** Kolloquium in Computerlinguistik, Zurich, Switzerland, May 2013