

David Campos

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PROFILE

With experience in multiple fields, including leadership, software engineering, 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, with an extensive **experience in all ends of the software engineering spectrum**, namely organization, architecture, implementation, quality, continuous delivery, and maintenance. I am continuously pushing myself to learn new concepts and methodologies, especially related to **Leadership, Organization, Architecture, DevOps, and Machine learning**.

EXPERIENCE

Engineering Manager

October 2021 - present

OLX Group, Remote

- Lead an **international, remote, and cross-functional team of 8 software engineers** with end-to-end responsibility in developing a large-scale machine learning-based solution for motors price evaluation, helping customers identify market fitting, trends, and opportunities.

★ Team Management | Leadership | Orchestration | Architecture | Coaching | Career Development | Pricing | Machine Learning

📍 Classifieds | Motors

IoT Solutions Architect Manager

July 2020 - September 2021

Bosch Thermotechnology, Aveiro, Portugal

- Lead an **international team of 4 system architects** with responsibilities in the **IoT architecture** used by hundreds of thousands of HVAC connected appliances, performing the definition of system-wide features and respective orchestration and deployment with infrastructure and product teams;
- **Disciplinary responsibility** of a **team of 8 members** to build innovative solutions for intelligent diagnostics and predictive maintenance of HVAC connected appliances, tackling **Cloud, Data Science** and **DevOps** topics.

Engineering Manager

June 2017 - June 2020

Bosch Thermotechnology, Aveiro, Portugal

- Lead a **team of 8 members** to build innovative solutions for intelligent 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 **partner** closely with other teams towards fulfilling organisation needs;
- Support and **coach** team members in career development, also recruiting new team members.

★ Team Management | 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, 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.
- Responsible for contacting new customers and maintaining valuable relationships for the company;
- Representing the company in national and international conferences, workshops and fairs;

★ 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

EXPERIENCE

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 for 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

Teacher

February 2011 - February 2012

University of Aveiro, Aveiro, Portugal

- **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

September 2009 - February 2014

Universities of Minho, Aveiro and Porto, Portugal

- **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

September 2006 - December 2008

University of Aveiro, Portugal

- **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

September 2003 - July 2006

University of Aveiro, Portugal

- **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

February 2019

iSAQB – International Software Architecture Qualification Board

SELECTED TRAINING COURSES

Leadership Focus Group (1 year)

May 2021

Bosch

Management 3.0

November 2018

Bosch

Communication and Cooperation

October 2018

Bosch

Leadership Fundamentals

June 2018

Bosch

Goal and Performance Dialogue

January 2018

Bosch

VOLUNTEER EXPERIENCE

Conference organizer

March 2018 - July 2020

Data Science Portugal (DSPT)

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

SELECTED 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)

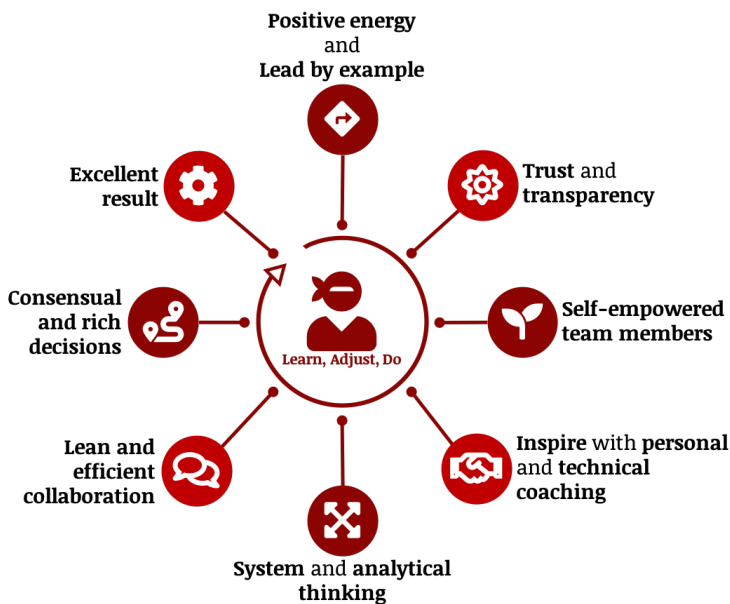
↓ **David Campos**, Sérgio Matos, José Luís Oliveira. Neji: a tool for heterogeneous biomedical concept identification. BioLINK SIG, ISMB/ECCB, Berlin, Germany, July 2013.

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



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

- **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/egass>

SELECTED RESEARCH PROJECT

- **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

- **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

- ↓ **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