

PEDRO LOPES

Rua da Ponte, n. 4, 2 M; 3830 – 309 Ilhavo, Portugal
+351 964 725 284 hello@pedrolopes.net

Born on October 13th, 1985
B category driver's license ^[PT]

Software Developer at Coimbra Genomics

Computer science PhD

Dad

Key skills

Software engineering

Project planning & management, product management, semantic web technologies, server-side & client-side web development, service-oriented architectures, requirements analysis, technical writing

Biomedical informatics & technologies

Service composition/workflows, data/information/knowledge integration, software interoperability

Product portfolio

i2x: automated real-time integration framework

<https://bioinformatics.ua.pt/i2x/>

COEUS: semantic web rapid application development framework

<http://bioinformatics.ua.pt/coeus/>

Diseasecard: rare diseases research portal

<http://bioinformatics.ua.pt/diseasecard/>

WAVE: web analysis of the variome

<http://bioinformatics.ua.pt/wave/>

WILLIAM: to-do list for iOS

<http://pedrolopes.net/william/>

Selfix: selfies Instagram browser

<http://pedrolopes.net/selfix/>

Anygram: search anything on Instagram

<http://pedrolopes.net/anygram/>

Scientific Highlights

PhD in Informatics Engineering

Service Composition for Biomedical Applications, University of Aveiro, October 2012

Relevant Publications

Pedro Lopes and José Luís Oliveira; *An automated real-time integration and interoperability framework for bioinformatics* in BMC Bioinformatics, 16:328, October 2015 [<http://dx.doi.org/10.1186/s12859-015-0761-3>]

Pedro Lopes, Luís Bastião and José Luís Oliveira; *Challenges and Opportunities for Exploring Patient-Level Data* in BioMed Research International, vol. 2015, Article ID 150435, 11 pages, August 2015 [<http://dx.doi.org/10.1155/2015/150435>]

Pedro Lopes, Tiago Nunes, David Campos, Laura Ines Furlong, et. al.; *Gathering and Exploring Scientific Knowledge in Pharmacovigilance* in PLoS ONE, December 2013 [<http://dx.doi.org/10.1371/journal.pone.0083016>]

Pedro Lopes and José Luís Oliveira; *An innovative portal for rare genetic diseases research: The semantic Diseasecard* in Journal of Biomedical Informatics, 46 – 1108-1115; August 2013 [<http://dx.doi.org/10.1016/j.jbi.2013.08.006>]

Pedro Lopes and José Luís Oliveira; *COEUS: "semantic web in a box" for biomedical applications* in Journal of Biomedical Semantics, 3:11; December 2012 [<http://dx.doi.org/10.1186/2041-1480-3-11>]

José Luís Oliveira, Pedro Lopes, et. al.; *The EU-ADR Web Platform: Delivering advanced pharmacovigilance tools* in Pharmacoepidemiology and Drug Safety [<http://dx.doi.org/10.1002/pds.3375>]

Sara C. Novais, Tine Vandenbrouck, Pedro Lopes, Joel Arrais, et. al.; *Enchytraeus albidus microarray: enrichment, design, annotation and database (EnchyBASE)* in PLoS ONE, March 2012 [<http://dx.doi.org/10.1371/journal.pone.0034266>]

Pedro Lopes, Raymond Dagleish and José Luís Oliveira; *WAVE: Web Analysis of the Variome* in Human Mutation, 32: 729–734; March 2011 [<http://dx.doi.org/10.1002/humu.21499>]

Experience

Software Developer

Location: Coimbra Genomics [<http://www.coimbra-genomics.com/>]

Date: July 2015 [ongoing]

Research Assistant

Location: IEETA, University of Aveiro

Supervision: José Luís Oliveira

Fellowship: CloudThinking (a QREN "MaisCentro" project)

Date: March 2013 > June 2015

Research & Development

Location: University of Aveiro Bioinformatics & Computational Biology Group – <http://bioinformatics.ua.pt>, IEETA

Supervision: José Luís Oliveira

Date: August 2007 > June 2015

Post Doc Scholarship

Location: IEETA, University of Aveiro

Supervision: José Luís Oliveira

Date: December 2012 > February 2013

Scholarship: supported by the RD-Connect project

International Internship

Location: Department of Genetics, University of Leicester

Supervisor: Anthony Brookes

Date: August 2010 > October 2010

Scholarship: awarded by the Erasmus program

PhD Scholarship

Location: IEETA, University of Aveiro

Supervision: José Luís Oliveira

Date: August 2008 > November 2012

Scholarship: supported by the GEN2PHEN project

Teaching

Monitoring: Electronics, Telecommunications and Informatics Department, University of Aveiro

Course: Programming 3 [Object-Oriented Programming, Java] - 2011 > 2012

Course: Information Technologies for Health [ICT, Word, Excel] - 2011 > 2012

Course: Programming 2 [Data Structures and Algorithms, Java] - 2010 > 2011, 2011 > 2012

Cooperation in student supervision: Electronics, Telecommunications and Informatics Department - University of Aveiro

PhD, Doctoral Program in Informatics Engineering

- *Semantic Knowledge Discovery for Neuropathologies*, Pedro Sernadela, University of Aveiro, 2013 [ongoing]

MSc, Computers and Telematics Engineering

- *OralCard: Web Information System for Oral Health*, José Melo, University of Aveiro, 2010 > 2011

- *Information System for Rare Diseases and Genetics Mutations*, Rafael Mendonça, University of Aveiro, 2010 > 2011

- *Biomedical Wikifier*; Emanuel Matos, University of Aveiro, 2009 > 2010

Education

PhD, Doctoral Program in Informatics Engineering

2008 > 2012

Electronics, Telecommunications and Informatics Department – University of Aveiro

Service Composition for Biomedical Applications

Supervisor: José Luís Oliveira

URL: <https://ria.ua.pt/handle/10773/10545>

Integrated Bologna MSc, Computers and Telematics Engineering

2003 > 2008

Electronics, Telecommunications and Informatics Department – University of Aveiro

Service Integration for Knowledge Extraction

Thesis: 18

Degree: 13

Supervisor: José Luís Oliveira

URL: <https://ria.ua.pt/handle/10773/1932>

Skills

Bioinformatics and Computational Biology

Next-generation biomedical applications

Data integration, knowledge extraction & management, service composition, software interoperability

Computer Science

Programming

Object-oriented programming [Java, C#], algorithms [Java, C#], workflow management & enactment

Development

Information systems [Java, C#, Ruby/Rails, PHP, SQL, XML/XSD/XPath, JSON], user interaction [HTML, JavaScript, CSS], service composition [REST, SOAP], semantic web [OWL, RDF, SPARQL, LinkedData], mobile [iOS, Objective-C]

Software Engineering

Requirements analysis, system modeling [UML], project planning and management

Projects

Cooperation in Research Projects

CloudThinking [QREN "MaisCentro" program, ref. CENTRO-07-ST24-FEDER-00203]

Project management, software engineering [Partner IEETA]: i2x - <https://bioinformatics.ua.pt/i2x>

An integrated platform connecting databases, registries, biobanks and clinical bioinformatics for rare disease research [RD-CONNECT – FP7 (2013-2018) HEALTH.2012.2.1.1-1-C]

Project management, software engineering [Partner UAVR]

Genotype to Phenotype Databases: A Holistic Solution [GEN2PHEN – FP7 (2007-2013) ICT-200754]

Project management, software development [Partner UAVR]: Diseasecard - <http://bioinformatics.ua.pt/diseasecard>, WAVE - <http://bioinformatics.ua.pt/WAVE>, COEUS - <http://bioinformatics.ua.pt/coeus>

Early Detection of Adverse Drug Events by Integrative Mining of Clinical Records and Biomedical Knowledge [EU-ADR – FP7 (2007-2012) ICT-215847]

Project management, interoperability coordination [Partner UAVR]: EU-ADR Web Platform - <http://bioinformatics.ua.pt/euadr>

Non-Profit Organizations

International Society for Computational Biology Student Council Regional Student Group Portugal

[<http://bioinformatics-portugal.org/students/>]

President [2011 > 2012], Founder and President [2010 > 2011]

Association for Electronics, Telecommunications and Telematics of the University of Aveiro [AETTUA, <http://www.ua.pt/aettua>]

Financial Board Reporter [2008 > 2009], Direction Vice-President [2007 > 2008], General Assembly Secretary [2006 > 2007]

Events

European Student Council Symposium 2012, Basel, Switzerland; September 2012

Event Chair [<http://escs.iscbsc.org/>]

International School on Semantic Web Applications & Technologies for Life Sciences 2012, Aveiro, Portugal; May 2012

Event Chair, Main Organizer [<http://www.swat4ls.org/schools/aveiro2012>]

International Society for Computational Biology Student Council Symposium 2011, Vienna, Austria; July 2011

Event Co-Chair [<http://symposium.iscbsc.org/>]

North Africa, Portugal and Spain Student Symposium on Bioinformatics 2010, Málaga, Spain; October 2010

Event Co-Chair [<http://nps3bio.tumblr.com/>]

Publications

Journals

Pedro Lopes and José Luís Oliveira; *An automated real-time integration and interoperability framework for bioinformatics* in *BMC Bioinformatics*, 16:328, October 2015 [<http://dx.doi.org/10.1186/s12859-015-0761-3>]

Pedro Lopes, Luís Bastião and José Luís Oliveira; *Challenges and Opportunities for Exploring Patient-Level Data* in *BioMed Research International*, vol. 2015, Article ID 150435, 11 pages, August 2015 [<http://dx.doi.org/10.1155/2015/150435>]

Paulo Gaspar, Pedro Lopes, Jorge Oliveira, Rosário Santos, Raymond Dalgleish, José Luís Oliveira; *Variobox: Automatic Detection and Annotation of Human Genetic Variants* in *Human Mutation*, 35: 202-207, February 2014 [<http://dx.doi.org/10.1002/humu.22474>]

Pedro Lopes, Tiago Nunes, David Campos, Laura Ines Furlong, A Bauer-Mehren, F Sanz, MC Carrascosa, J Mestres, JA Kors, B Singh, EM Van Mulligen, J Van der Lei, G Diallo, P Avillach, E Ahlberg, S Boyer, C Diaz, José Luís Oliveira; *Gathering and Exploring Scientific Knowledge in Pharmacovigilance* in *PLoS ONE*, December 2013 [<http://dx.doi.org/10.1371/journal.pone.0083016>]

Pedro Lopes and José Luís Oliveira; *An innovative portal for rare genetic diseases research: The semantic Diseasecard* in *Journal of Biomedical*

Informatics, 46 – 1108-1115; August 2013 [<http://dx.doi.org/10.1016/j.jbi.2013.08.006>]

Pedro Lopes and José Luís Oliveira; *COEUS: "semantic web in a box" for biomedical applications* in *Journal of Biomedical Semantics*, 3:11; December 2012 [<http://dx.doi.org/10.1186/2041-1480-3-11>]

José Luís Oliveira, Pedro Lopes, Tiago Nunes, David Campos, S Boyer, E Ahlberg, EM Van Mulligen, JA Kors, B Singh, LI Furlong, F Sanz, A Bauer-Mehren, MC Carrascosa, J Mestres, P Avillach, G Diallo, C Diaz, J Van der Lei; *The EU-ADR Web Platform: Delivering advanced pharmacovigilance tools* in *Pharmacoepidemiology and Drug Safety* [<http://dx.doi.org/10.1002/pds.3375>]

Sara C. Novais, Tine Vandenbrouck, Pedro Lopes, Joel Arrais, Wim De Coen, Amadeu M.V.M. Soares and Mónica J.B. Amorim; *Enchytraeus albidus microarray: enrichment, design, annotation and database (EnchyBASE)* in *PLoS ONE*, March 2012 [<http://dx.doi.org/10.1371/journal.pone.0034266>]

A Bauher-Mehren, EM van Mulligen, P Avillach, MC Carrascosa, B Singh, R Garcia-Serna, Pedro Lopes, José Luís Oliveira, G Diallo, J Mestres, E Ahlberg Helgee, S Boyer, F Sanz, JA Kors, LI Furlong; *Automatic filtering and substantiation of drug safety signals* in *PLoS Computational Biology*, March 2012 [<http://dx.doi.org/10.1371/journal.pcbi.1002457>]

Nuno Rosa, Maria José Correia, Joel P. Arrais, Pedro Lopes, José Melo, José Luís Oliveira and Marlene Barros; *From the salivary proteome to the OralOme: Comprehensive molecular oral biology* in *Archives of Oral Biology*, January 2012 [<http://dx.doi.org/10.1016/j.archoralbio.2011.12.010>]

Priscilla Grynberg, Thomas Abeel, Pedro Lopes, Geoff Macintyre and Lorena Pantano Rubino; *Highlights from the Student Council Symposium 2011 at the International Conference on Intelligent Systems for Molecular Biology and European Conference on Computational Biology* in *BMC Bioinformatics*, 12(Suppl 11):A1; November 2011 [<http://dx.doi.org/10.1186/1471-2105-12-S11-A1>]

Pedro Lopes, Raymond Dagleish and José Luís Oliveira; *WAVE: Web Analysis of the Variome* in *Human Mutation*, 32: 729–734; March 2011 [<http://dx.doi.org/10.1002/humu.21499>]

Book Chapters

Pedro Lopes and José Luís Oliveira; *Collecting and Enriching Human Variome Datasets in Tecnologías NBIC en Salud: El papel protagonista de la Nanociencia. Aplicación de especial interés al Cáncer Colorrectal*, November 2012 [ISBN: 978-84-15413-15-8]

Full Papers in International Conferences with Peer Review

Pedro Lopes, Luís Bastião and José Luís Oliveira; *i2x: an Automated Real-time Integration and Interoperability Platform* in 8th IEEE International Conference on Service Oriented Computing & Applications, Rome, Italy; October 2015

Pedro Lopes and José Luís Oliveira; *Integration-as-a-Service for bioinformatics* in 10th Iberian Conference on Information Systems and Technologies, Águeda, Portugal; June 2015

Pedro Sernadela, **Pedro Lopes**, and José Luís Oliveira; *Towards a Knowledge Federation of Linked Patient Registries* in 10th Iberian Conference on Information Systems and Technologies, Águeda, Portugal; June 2015

Pedro Lopes, Luís Bastião and José Luís Oliveira; *Challenges and opportunities for exploring patient- level data: preliminary results* in 10th Iberian Conference on Information Systems and Technologies, Águeda, Portugal; June 2015

Pedro Sernadela, **Pedro Lopes**, David Campos, Sérgio Matos, José Luís Oliveira; *A Semantic Layer for Unifying and Exploring Biomedical Document Curation Results* in Third International Conference on Bioinformatics and Biomedical Engineering, Granada, Spain; April 2015 [http://dx.doi.org/10.1007/978-3-319-16483-0_2]

Pedro Lopes and José Luís Oliveira; *An Event-Driven Architecture for Biomedical Data Integration and Interoperability* in Third International Conference on Bioinformatics and Biomedical Engineering, Granada, Spain; April 2015 [http://dx.doi.org/10.1007/978-3-319-16480-9_17]

Pedro Sernadela, Eelke van der Horst, Mark Thompson, **Pedro Lopes**, Marco Roos, José Luís Oliveira; *A Nanopublishing Architecture for Biomedical Data* in 8th International Conference on Practical Applications of Computational Biology & Bioinformatics, Salamanca, Spain; June 2014 [http://dx.doi.org/10.1007/978-3-319-07581-5_33]

Pedro Lopes, Rafael Mendonça, Hugo Rocha, Jorge Oliveira, Laura Vilarinho, Rosário Santos and José Luís Oliveira; *A Rare Disease Patient Manager* in 6th International Conference on Practical Applications of Computational Biology & Bioinformatics, Salamanca, Spain; March 2012 [http://dx.doi.org/10.1007/978-3-642-28839-5_20]

José Melo, Joel P Arrais, Edgar Coelho, **Pedro Lopes**, Nuno Rosa, Maria José Correia, Marlene Barros, José Luís Oliveira; *Data Integration Solution for Organ-Specific Studies: An Application for Oral Biology* in 5th International Joint Conference BIOSTEC 2012, Vilamoura, Portugal; February 2012 [http://dx.doi.org/10.1007/978-3-642-38256-7_27]

José Melo, Joel P. Arrais, Pedro Lopes, Nuno Rosa, Maria José Correia, Marlene Barros and José Luís Oliveira; *Web Information System for the Study of Oral Health* in International Conference on Health Informatics 2012 (HEALTHINF 2012), Vilamoura, Portugal; February 2012 [<http://dx.doi.org/10.5220/0003785300970105>]

Pedro Lopes and José Luís Oliveira; *COEUS: A Semantic Web Application Framework* in 4th International Semantic Web Applications & Tools for Life Sciences Workshop (SWAT4LS 2011), London, England; December 2011 [<http://dx.doi.org/10.1145/2166896.2166915>]

Pedro Lopes and José Luís Oliveira; *A semantic web application framework for health systems interoperability* in First International Workshop on Managing Interoperability and Complexity in Health Systems (MIX-HS'11), Glasgow, Scotland; November 2011 [<http://dx.doi.org/10.1145/2064747.2064768>]

Joel P. Arrais, Pedro Lopes and José Luís Oliveira; *Challenges Storing and Representing Biomedical Data* in Information Quality in e-Health - 7th Conference of the Workgroup Human-Computer Interaction and Usability Engineering of the Austrian Computer Society (USAB 2011), Graz, Austria; November 2011 [http://dx.doi.org/10.1007/978-3-642-25364-5_6]

Pedro Lopes and José Luís Oliveira; *Towards Knowledge Federation in Biomedical Applications* in 7th International Conference on Semantic Systems (I-SEMANTICS 2011), Graz, Austria; October 2011 [<http://dx.doi.org/10.1145/2063518.2063530>]

Pedro Lopes, David Campos and José Luís Oliveira; *A tagging system for bioinformatics resources* in 10th IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB 2010); Corfu, Greece, November 2010 [<http://dx.doi.org/10.1109/ITAB.2010.5687781>]

Pedro Lopes and José Luís Oliveira; *An extensible platform for variome data integration* in 10th IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB 2010); Corfu, Greece, November 2010 [<http://dx.doi.org/10.1109/ITAB.2010.5687784>]

Pedro Lopes and José Luís Oliveira; *A Holistic Approach for Integrating Genomic Variation Information* in 10th Spanish Symposium on Bioinformatics (JBI2010); Malaga, Spain, October 2010

Joel Arrais, João Pereira, Pedro Lopes, Sérgio Matos, and José Luís Oliveira; *Improving cross mapping in biomedical databases* in 4th International Workshop on Practical Applications of Computational Biology and Bioinformatics (IWPACBB 2010); Guimarães, Portugal, June 2010 [http://dx.doi.org/10.1007/978-3-642-13214-8_9]

Pedro Lopes, David Campos, Carlos Davide Pinto and José Luís Oliveira; *Arabella: A Topic Driven Web Crawler* in International Conference on Knowledge Discovery and Information Retrieval, Institute for Systems and Technologies of Information, Control and Communication (KDIR, IC3K 2009); Madeira, Portugal, October 2009

Pedro Lopes, Joel Arrais and José Luís Oliveira; *LinkIntegrator: A Link-based Data Integration Architecture* in International Conference on Knowledge Discovery and Information Retrieval, Institute for Systems and Technologies of Information, Control and Communication (KDIR, IC3K 2009); Madeira, Portugal, October 2009

Pedro Lopes, Joel Arrais and José Luís Oliveira; *DynamicFlow: A Client-side Workflow Management System* in 3rd International Workshop on Practical Applications of Computational Biology and Bioinformatics (IWPACBB2009), Springer; Salamanca, Spain, June 2009 [http://dx.doi.org/10.1007/978-3-642-02481-8_167]

Pedro Lopes, Joel Arrais and José Luís Oliveira; *Dynamic Service Integration using Web-based Workflows* in 10th International Conference on Information Integration and Web Applications & Services, ACM; Linz, Austria, November 2008 [<http://doi.acm.org/10.1145/1497308.1497426>]

Short Papers

Pedro Lopes and José Luís Oliveira; *Semantic rule processing for real-time data integration* in 6th International Semantic Web Applications & Tools for Life Sciences Workshop (SWAT4LS 2013), Edinburgh, Scotland; December 2013

Pedro Sernadela, Pedro Lopes and José Luís Oliveira; *Exploring nanopublishing with COEUS* in 6th International Semantic Web Applications & Tools for Life Sciences Workshop (SWAT4LS 2013), Edinburgh, Scotland; December 2013

Pedro Sernadela, Pedro Lopes and José Luís Oliveira; *Exploring nanopublications integration in pharmacovigilance scenarios* in IEEE 15th International Conference on e-Health Networking, Applications and Services (IEEE Healthcom 2013), Lisbon, Portugal; October 2013

Pedro Lopes, Paulo Gaspar and José Luís Oliveira; *An Integrative Rare Diseases Research Portal* in International Conference on Intelligent Systems for Molecular Biology/European Conference on Computational Biology 2013 (ISMB/ECCB'13), Berlin, Germany; July 2013

Pedro Lopes, David Campos, Tiago Nunes and José Luís Oliveira; *Delivering advanced pharmacovigilance with the EU-ADR Web Platform* in European Conference on Computational Biology 2012 (ECCB'12), Basel, Switzerland; September 2012

Pedro Lopes and José Luís Oliveira; *COEUS: "Semantic Web in a Box" for Biomedical Applications* in European Conference on Computational Biology 2012 (ECCB'12), Basel, Switzerland; September 2012

Rafael Mendonça, Pedro Lopes and José Luís Oliveira; *Gathering and Managing Genotype and Phenotype Information About Rare Disease Patients* in International Conference on Health Informatics 2012 (HEALTHINF 2012), Vilamoura, Portugal; February 2012

Pedro Lopes and José Luís Oliveira; *An Integrated View for the Human Variome* in 14th Annual Meeting of Portuguese Society for Human Genetics (SPGH 2010); Coimbra, Portugal; November 2010

Pedro Lopes and José Luís Oliveira; *An Integrated View for Human Variome Information* in 14th International Conference on Research in Computational Molecular Biology (RECOMB2010); Lisbon, Portugal, August 2010

Pedro Lopes and José Luís Oliveira; *Integration of Variome Data through a Link Discovery Strategy* in IX Jornadas de Bioinformática (IX JBI); Lisbon, Portugal, November 2009

Invited Talks

Experiences and Dialogues in Portuguese Bioinformatics Education in Bioinformatics Open Days; Braga, Portugal; March 2012

Collecting and Enriching Human Variome Datasets in 3rd Annual Meeting of Redes CYTED NanoRoadmap e Ibero-NBIC; Aveiro, Portugal; October 2011

GEN2PHEN Project Introduction in 14th Annual Meeting of Portuguese Society for Human Genetics (SPGH 2010); Coimbra, Portugal; November 2010

EU-ADR Project and Taverna at School of Computer Science, University of Manchester; Manchester, United Kingdom, October 2010