

# Curriculum Vitae

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## Personal information

Name – Luis Filipe Pinto de Almeida Teixeira  
Email – luisft@fe.up.pt  
Homepage – <http://luisteixeira.net>  
Nationality – Portuguese  
Date of birth – April 20, 1979

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## Education

**Ph.D. in Electrical and Computer Engineering** from the University of Porto | Jan. 2005 – Nov. 2009

Thesis “Contributions for the Automatic Description of Multimodal Scenes” supervised by Prof. Luis Corte-Real and approved by unanimous vote. Keywords: multimodal analysis, content indexing, object detection and tracking, event analysis, ambient intelligence, surveillance systems.

**M.Sc. in Computer Networks and Communication Services** from the University of Porto | Mar. 2002 – Nov. 2004

Thesis “Editing and Description Framework for Video Objects Multimedia authoring” supervised by Prof. Luis Corte-Real approved with *Muito Bom* (Very good, top grade) and with a first-year classification of 18/20. Keywords: content reuse, content repurpose, MPEG-4, multimedia content description, semantic content, MPEG-7.

**Licenciatura (5-year degree) in Electrical and Computer Engineering** from the University of Porto | Sep. 1996 – Jul. 2001

Major in Telecommunications Faculdade de Engenharia da Universidade do Porto (FEUP) with a final classification of 17/20 (2nd among 116 finalists)

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## Work experience

**Invited Assistant Professor** at DEI-FEUP | Oct. 2009 – current

Coordinates and teaches the Programming 1 and 2 courses of the Electrical and Computer Engineering Master and also taught laboratory classes of other courses, namely: Computer Laboratories and Database Laboratories. Supervises M.Sc. students.

**Senior Scientist** at Fraunhofer Portugal AICOS | Nov. 2008 – current

Member of the Scientific Board. Collaborated in industry, European and internal projects with management, and research and development responsibilities.

**Researcher** at INESC Porto | Sep. 2001 – Oct. 2008

Collaborated in European projects and internal projects with research and development responsibilities. Co-supervised projects by FEUP Master/*Licenciatura* students.

**Visiting Researcher** at University of Victoria, BC | Oct. 2006 – Dec. 2006  
Collaborated in the Marsyas project with the supervision of Prof. George Tzanetakis.

**Teaching Assistant** at FEUP | Mar. 2004 – Jul. 2006  
Assisted Programming laboratory classes - Informatics Engineering course.

**Junior Researcher** at INEB | Mar. 2001 – Aug. 2001  
Collaborated in an internal project of the ARSIS group with development responsibilities.

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## Publications

### Theses

- [1] Luis F. Teixeira. Contributions for the Automatic Description of Multimodal Scenes. PhD thesis, Faculdade de Engenharia da Universidade do Porto, Portugal, 2009
- [3] Luis F. Teixeira. Editing and description framework for video objects. Master's thesis, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal, July 2004.

### International Journals

- [3] Jaime S. Cardoso, Pedro Carvalho, Luis F. Teixeira, and Luis Corte-Real. Partition-distance methods for assessing spatial segmentations of images and videos. *Computer Vision and Image Understanding*, 113(7):811–823, July 2009
- [4] Luis F. Teixeira and Luis Corte-Real. Video object matching across multiple independent views using local descriptors and adaptive learning. *Pattern Recognition Letters*, 30(2):157–167, January 2009
- [5] Luis F. Teixeira, Jaime S. Cardoso, and Luis Corte-Real. Object segmentation using background modelling and cascaded change detection. *Journal of Multimedia*, 2(5):55–64, September 2007
- [6] M. J. Cardoso et al. Turning subjective into objective: The BCCT.core software for evaluation of cosmetic results in breast cancer conservative treatment. *The Breast*, 16(5):456–461, October 2007

### International Conferences

- [7] Pedro Teixeira, Francisco Nunes, Paula Silva, and Luis Teixeira, Mover – Activity Monitor and Fall Detector for Android, *Mobile HCI 2011* (submitted)
- [8] Jaime S. Cardoso, Ricardo Sousa, Luis. F. Teixeira, and M. J. Cardoso. Breast contour detection with stable paths. *Communications in Computer and Information Science*, 25:439–452, 2008
- [9] Luis F. Teixeira, Luis G. Martins, Mathieu Lagrange, and George Tzanetakis. "MarsyasX: multimedia dataflow processing with implicit patching. In *Proc. of ACM International Conference on Multimedia*, pages 873–876, Vancouver, BC, October 2008
- [10] George Tzanetakis, Luis G. Martins, Luis F. Teixeira, Carlos Castillo, Randy Jones, and Mathieu Lagrange. Interoperability and the marsyas 0.2 runtime. In *Proc. of the International Computer Music Conference*, Belfast, Northern Ireland, August 2008
- [11] Daniel Duraes, Luis F. Teixeira, and Luis Corte-Real. Building modular surveillance systems based on multiple sources of information – architecture and requirements. In *International Conference on Signal Processing and Multimedia Applications*, pages 314–319, Porto, Portugal, July 2008

- [12] Filipe Coelho, Luis Baptista, Luis F. Teixeira, and Jaime S. Cardoso. Automatic system for the recognition of amounts in handwritten cheques. In International Conference on Signal Processing and Multimedia Applications, pages 320–324, Porto, Portugal, July 2008
- [13] Jaime S. Cardoso, Luis F. Teixeira, and Maria J. Cardoso. Automatic breast contour detection in digital photographs. In Proc. of International Conference on Health Informatics, pages 91–98, Funchal, Portugal, January 2008
- [14] Mathieu Lagrange, Luis G. Martins, Luis F. Teixeira, and George Tzanetakis. Speaker segmentation of interviews using integrated video and audio change detections. In Proc. of International Workshop on Content-Based Multimedia Indexing, pages 219–226, Bordeaux, France, June 2006
- [15] Luis F. Teixeira and Luis Corte-Real. Cascaded change detection for foreground segmentation. In Proc. of IEEE Winter Vision Meeting Motion and Video Computing, Austin, TX, February 2007
- [16] Luis F. Teixeira and Luis Corte-Real. Integrated multimedia authoring and description framework. In Proc. of the International Workshop on Image Analysis for Multimedia Interactive Services, pages 265–268, Incheon, South Korea, April 2006

#### National Conferences

- [17] Pedro Teixeira and Luis F. Teixeira. Search and Navigation for Photo Collections Portuguese Conference on Pattern Recognition, 2010

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#### **Projects**

IST NoE VISNET II (2006–2009) and NoE VISNET (2004-2005) – Audiovisual systems and algorithms. Researcher/Ph.D. student. Research tasks: develop segmentation and tracking algorithm for visual surveillance systems.

IST NUGGETS (2003–2004) – Distributed systems for digital television. Researcher and implementation responsibilities within a team of 2 elements. Development tasks: MXF SDK support. IST ASSET (2003) – Distributed systems for digital television. Researcher and implementation responsibilities within a team of 3 elements. Development tasks: Metadata handling SDK in C++.

MXF SDK (2002) – Distribution formats for digital television. Implementation responsibilities within a team of 5 elements. Development tasks: MXF SDK implementation in C++.

IST METAVISION (2002–2003) – Distributed systems for digital television. Researcher and implementation responsibilities within a team of 3 elements. Development tasks: Distributed audiovisual file management system in C++.

ORBIT (2001–2002) – Video processing, distributed systems for digital television. Researcher and implementation responsibilities within a team of 15 elements. Development tasks: CORBA modules in C++ and video annotation GUI in JAVA.

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#### **Invited talks**

- Augmented Reality Seminar, Portuguese Catholic University, School of Arts, July 2011 (to happen)

- Computer Vision and Multimodal Interfaces Seminar, Portuguese Catholic University, School of Arts, March 2010
- Marsyas and MarsyasX, University of Minho, March 2008

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## **Other activities**

### Reviewer for scientific publications and conferences

- International Conference on Image Analysis and Recognition (ICIAR)
- International Computer Music Conference (ICMC)
- Pattern Recognition Letters

### Participation in conferences and other events

- ACM Multimedia 2008, Vancouver, BC, Canada, 27-31 October, 2008.
- IEEE Winter Vision Meeting Motion and Video Computing (Motion 2007), Austin, TX, 23-24 February, 2007.
- Data and Models in Engineering, Science and Business, Parts I & II short summer course organized by the Massachusetts Institute of Technology Professional Institute (MIT-PI), Cambridge, MA, USA, 10-13 July, 2006.
- Summer School NN2005 on Neural Networks, Porto, Portugal, 4-8 July, 2005.
- International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT 2002), Padova, Italy, 19-21 June, 2002.

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## **Honors and awards**

Doctoral scholarship awarded by the FCT (Portuguese foundation for science and technology), 2004-2008  
Master's scholarship awarded by the FCT (Portuguese foundation for science and technology), 2003-2004

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## **Personal skills and competences**

### Languages

Portuguese (mother-tongue), English (proficient), French (basic), Finnish (basic)

### Technical Knowledge

Experienced C/C++ programmer with 10+ years of development experience in R&D projects, as well as open-source projects. Developed a broad range of applications and modules, covering aspects from specification and implementation of multimedia framework architectures, implementation of distributed systems, algorithm-level implementation, GUI design to 3D programming. Large experience (6+ years) using the Python programming language, developing smaller projects and bindings of C/C++ modules for higher-level integration. Experience also in web development using PHP and Javascript with associated technologies such as Ajax, jQuery and JSON. Knowledge of other programming languages, including Java, Perl, SQL and C#. Knowledge of specific software tools, including MATLAB, Maple, SPSS, MySQL and LaTeX.