

# Sérgio Ivan Lopes

Curriculum Vitae

**Webpage:**

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**Email:**

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**Birth Date:**

24.04.1979

**Citizenship:**

Portuguese



## Memberships

### IEEE Member - January 2011 till now

Institute of Electrical and Electronics Engineers (IEEE), Number: 91275169

## Professional Experience

### Assistant Professor - March 2015 till now

ESTG/IPVC - Instituto Politécnico de Viana do Castelo, Portugal (<http://www.ipvc.pt>)

### Associate Researcher - April 2014 till now

IT - Instituto de Telecomunicações, Aveiro, PT (<https://www.it.pt/Members/Index/7067>)

### European Commission Expert - May/June 2016

H2020 Project Evaluator in the call ICT-01-2016: Smart Cyber-Physical Systems

### Visiting Professor - February 2015 till February 2019

ESTG/IPVC - Instituto Politécnico de Viana do Castelo, Portugal (<http://www.ipvc.pt>)

### Visiting Lecturer - March 2010 till January 2015

ESTG/IPVC - Instituto Politécnico de Viana do Castelo, Portugal (<http://www.ipvc.pt>)

### R&D Engineer - April 2014 till December 2014

IT - Instituto de Telecomunicações

**Description:** R&D Engineer in the Project Panorama II.

**Role:** Filter design (DSP) for FPGA-based systems and embedded programming.

**Tools used:** Matlab, Simulink and MPLab X.

### R&D Engineer - December 2013 till March 2014

IEETA - Institute of Electronics and Telematics Engineering of Aveiro, Portugal

**Description:** R&D Engineer at the AcousticAVE (Auralisation Models and Applications in Virtual Reality Environments) project funded by FCT. **Role:** Design and real-time DSP programming for the iOS platform. **Tools used:** Matlab, Openframeworks, Xcode, iOS.

### **R&D Engineer - January 2013 till November 2013**

FEUP - Faculty of Engineering of the University of Porto, Portugal ([www.fe.up.pt](http://www.fe.up.pt))

**Description:** R&D Engineer at the Audio Processing Lab for the ARTTS (Assistive Real-Time Technology in Singing) project funded by FCT. **Role:** Design real-time DSP audio algorithms using C++ and Objective-C++ for the iOS platform. **Tools used:** Matlab, Openframeworks, Xcode, iOS, Qt/QWt, Processing.

### **R&D Engineer - December 2010 till December 2012**

Signal Processing Lab, IEETA/University of Aveiro

**Description:** R&D Engineer at the Pervasive Tourism project (funded by Agência de Inovação). **Role:** Development of hybrid techniques and methodologies for high-accuracy indoor positioning. **Tools used:** Matlab, C/C++, Objective-C++, iOS, Openframeworks, Xcode, Eagle, MSP430, Code Composer Studio.

### **Trainer - September 2009 till December 2009**

UNAVE-Associação para a Formação Profissional da Universidade de Aveiro

**Role:** Lecturer in the course "*Introduction to Adobe Flex®*".

### **Systems Engineer/Developer - April 2007 till November 2010**

ClusterMedia Labs, Aveiro, Portugal ([www.clustermedialabs.com](http://www.clustermedialabs.com)).

**Role:** Development of DSP algorithms for semantic analysis of audiovisual contents, i.e. speaker identification and audio similarity tools. **Tools used:** Matlab, C++, MS Visual Studio 2008, MySQL, Ruby on Rails, Flash & Flex (AS3), RED5, Wowza.

### **Research Assistant - April 2005 till March 2007**

Signal Processing Lab, IEETA/University of Aveiro

**Description:** Research Assistant at the CAMBADA project funded by Universidade de Aveiro.

**Role:** Development of obstacle localization/detection algorithms using sensor arrays. Real-time embedded systems design and DSP programming in C/C++ and Assembly. **Tools used:** Matlab, C/C++, Assembly, Code Composer Studio, TMS320F2812, OrCAD.

### **Store Assistant (part-time) - October 1999 till December 2004**

EMI - Valentim de Carvalho, SA ([www.valentimdecarvalho.pt](http://www.valentimdecarvalho.pt)).

**Role:** Sales, costumer adviser and record orders.

## Educational Background

### 2017 - Postgraduate diploma in Project Management

Porto Business School, University of Porto, Portugal

Final Project: "Estratégia e boas práticas na Gestão de Projetos de I&D+I no IPVC"

### 2014 - PhD in Electrical Engineering

University of Aveiro, Portugal

**Thesis:** "In search of reliable centimeter-level indoor positioning: a smartphone-based approach", URI: <http://ria.ua.pt/handle/10773/14100>.



Ph.D. Thesis awarded with the 1<sup>st</sup> place in the Fraunhofer Portugal Challenge 2015.

More info available at: [http://www.challenge.fraunhofer.pt/en/the\\_challenge.html](http://www.challenge.fraunhofer.pt/en/the_challenge.html).

### 2009 - MSc in Biomedical Engineering (2 yrs)

University of Aveiro, Portugal

**Field of specialization:** Instrumentation, Signal and Medical Image.

**Thesis:** "Obstacle location for the blind using ultrasounds and sound spatialization techniques", URI: <http://ria.ua.pt/handle/10773/3873>.

### 2004 - Degree in Electronics and Telecommunications Engineering (5 yrs)

University of Aveiro, Portugal

**Final Project:** Wireless Digital Audio and Image Intercom.

URI: <http://sergioivanlopes.com/gbcommunicator/>

## Awards and Distinctions

### October 2018

#### Distinction, "Excellent Reviewer"

Attributed by the Journal IEEE Transactions on Industrial Electronics (IF:7.05)

Institute of Electrical and Electronics Engineers Inc. (IEEE)

URI: <https://publons.com/researcher/1512117/sergio-ivan-lobes/>

### April 2017 (Supervisor)

#### Prémio Desafio 2017: Soluções Inteligentes em Engenharia Civil

Os Grandes Desafios da Engenharia Civil, ISEP Porto, Portugal

URI: <https://tinyurl.com/ybbl73cx>

### October 2015

#### 1<sup>st</sup> place in the Fraunhofer Portugal Challenge 2015 (Ph.D. Category)

Associação Fraunhofer Portugal

URI: [http://www.challenge.fraunhofer.pt/en/the\\_challenge.html](http://www.challenge.fraunhofer.pt/en/the_challenge.html)

### October 2015

#### Scientific Production Award

Instituto de Telecomunicações

### May 2015

#### Medalha de Mérito IPVC

Instituto Politécnico de Viana do Castelo

### December 2014

#### Distinction, PhD in Electrical Engineering

Universidade de Aveiro

### April 2007

#### ESPA Award - Excellence in Signal Processing Award given by Texas Instruments.

URI: <http://www.ti.com/europe/espa/hof.htm>

## Academic Activities

### Lecturer in the following courses:

#### .: Polytechnic Institute of Viana do Castelo:

Sistemas Ciber-Físicos | Activity years : 2019/20

Sistemas Embebidos | Activity years : 2018/19/20

Teoria do Sinal | Activity years : 2018/19/20

Análise e Processamento de Sinal | Activity years : 2018/19/20

Arquitetura e Sistemas de Computadores | Activity years : 2017/18/19/20

Sistemas de Telecomunicações | Activity years : 2017/18/19

Processamento Digital de Sinal | Activity years : 2010/11/12/13/13/15/16/17/18

Sistemas Digitais e Microcontroladores II | Activity years : 2009/10/11/12/13/14/15/16/17

Microcontroladores | Activity years : 2013/14/15/16/17

Comunicações de Dados | Activity years : 2014/15/16/17

Arquitetura e Sistemas de Microprocessadores (ESTG-IPVC) | Activity years : 2014/15/16

Laboratórios de Electrónica (ESTG-IPVC) | Activity years : 2014/15/16

Sistemas Domóticos (ESTG-IPVC) | Activity years : 2014/15

Eletrónica Analógica (ESTG-IPVC) | Activity years : 2015

#### .: University of Aveiro

Arquitetura de Computadores II (University of Aveiro) | Activity years : 2013/14

Aplicações para a Ciência e Engenharia (University of Aveiro) | Activity years : 2012/13

Processamento Digital de Sinal (University of Aveiro) | Activity years : 2011/12

#### .: Polytechnic Institute of Cavado and Ave

Programação de dispositivos Móveis e Multisensoriais (EST) | Activity years : 2018/19/20

## Research Activity

### R&D Projects:

Project member @ RefillH2O, Instituto Politécnico de Viana do Castelo, 2020-2022

**Project coordinator** @ IoT-Viana, Instituto Politécnico de Viana do Castelo, 2019-2020

**Project coordinator** @ RnMonitor, Instituto de Telecomunicações [[link](#)], 2017-2019

**Project coordinator** @ SHOPANALYTICS, Instituto de Telecomunicações [[link](#)], 2015-2017

Project member @ P&H Monitoring, Instituto Politécnico de Viana do Castelo, 2016-2017

Project member @ PANORAMA II RÁDIO @ Instituto de Telecomunicações, 2014

Project member @ ACOUSTICAVE @ IEETA/Universidade de Aveiro, 2013-2014

Project member @ ARTTS @ FEUP/Universidade do Porto, 2013

Project member @ PERVASIVE TOURISM, IEETA/Universidade de Aveiro, 2010-2012

Project member @ CAMBADA, DETI/Universidade de Aveiro, 2005-2007

### Scientific Events Organization:

**[General Chair] Edge-IoT 2020:** EAI International Conference on Intelligent Edge Processing in the IoT Era, December 2-4, 2020, Viana do Castelo, Portugal, URI: <http://edge-iot.org/>

**[Co-Chair] WDTE 2020:** II International Workshop on Digital Transformation in the Enterprise, June 24-27, Sevilha, Spain, URI: <https://tinyurl.com/ybqm3ume>

**[Co-Chair] WDTE 2019:** I International Workshop on Digital Transformation in the Enterprise, June 19-22, 2019, Coimbra, Portugal, URI: <http://arc4digit.ipvc.pt/wdte-2019/>

### Reviewer in the following Journals:

IEEE Transactions on Industrial Electronics, IF: 6.500

IEEE Transactions on Mobile Computing, IF: 3.822

IEEE Transactions on Instrumentation and Measurement, IF: 2.794

MDPI Sensors, IF: 2.677

MDPI Energies, IF: 2.676

MDPI Electronics, IF: 2.110

IEEE Transactions on Vehicular Technology, IF: 1.978

Indoor and Built Environment, IF: 1.367

## Publications

### Thesis (2)

1. S. I. Lopes, "In search of reliable centimeter-level indoor positioning: a smartphone-based approach.", Ph.D. Thesis, Universidade de Aveiro, December 2014, URI: <http://hdl.handle.net/10773/14100>
2. S. I. Lopes, "Localização de obstáculos para invisuais utilizando ultra-sons e técnicas de espacialização auditiva", M.Sc. Thesis, Universidade de Aveiro, December 2009, URI: <http://hdl.handle.net/10773/3873>

### Books (1)

1. D.F. Albuquerque, J.M.N. Vieira, **S.I. Lopes**, "Indoor Acoustic Simulator: A Modelling and Simulation Framework with Doppler Effect for Broadband Ultrasonic Applications.", LAP LAMBERT Academic Publishing, February 2017, ISBN-10: 3330042281, ISBN-13: 978-3330042285. URI: <https://www.amazon.com/Indoor-Acoustic-Simulator-Simulation-Applications/dp/3330042281>

### Books Chapters (2)

1. **S.I. Lopes**, S. Lima, T. Santos, J. Palma and D. Miranda (in Press), "Otimização da navegabilidade das pessoas com deficiência visual reduzida em espaços urbanos: I&D de utilidade prática e inclusiva.", Célia Sousa (ed.), Tecnologias de reabilitação e apoio para o bem estar e acessibilidades, Inovatec, Portugal, pp.53-62. URI: <https://tinyurl.com/yxzdferp>
2. R. Azevedo, J.P. Silva, N. Lopes, A. Curado and S.I. Lopes (2020), "Short-Term Indoor Radon Gas Assessment in Granitic Public Buildings: a multi-parameter approach", In: Rodrigues H., Gaspar F., Fernandes P. (eds), Sustainability and Automation in Smart Constructions, Springer International Publishing. DOI: [10.1007/978-3-030-35533-3](https://doi.org/10.1007/978-3-030-35533-3)

### Book Series (4)

1. **Lopes S.I.**, Bogers S., Moreira P.M., Curado A. (2020). "A Visual Analytics Approach for Effective Radon Risk Perception in the IoT Era." In: Santos H., Pereira G., Budde M., Lopes S., Nikolic P. (eds) Science and Technologies for Smart Cities. SmartCity 360 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 323. Springer, Cham, DOI: [10.1007/978-3-030-51005-3\\_10](https://doi.org/10.1007/978-3-030-51005-3_10)
2. Martins P., **Lopes S.I.**, Pereira F., Curado A. (2020). "RnMonitor: An IoT-Enabled Platform for Radon Risk Management in Public Buildings." In: Santos H., Pereira G., Budde M., Lopes S., Nikolic P. (eds) Science and Technologies for Smart Cities. SmartCity 360 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 323. Springer, Cham, DOI: [10.1007/978-3-030-51005-3\\_6](https://doi.org/10.1007/978-3-030-51005-3_6)

3. Azevedo R., Silva J.P., Lopes N., Curado A., **Lopes S.I.** (2020). "Short-Term Indoor Radon Gas Study in a Granitic School Building: A Comparative Analysis of Occupation Periods." In: Santos H., Pereira G., Budde M., Lopes S., Nikolic P. (eds) Science and Technologies for Smart Cities. SmartCity 360 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 323. Springer, Cham, DOI: [10.1007/978-3-030-51005-3\\_9](https://doi.org/10.1007/978-3-030-51005-3_9)
4. **S.I. Lopes**, F. Pereira, J.M.N. Vieira, N.B. Carvalho and A. Curado (2019), Design of Compact LoRa Devices for Smart Building Applications. In: Afonso J., Monteiro V., Pinto J. (Eds.) Green Energy and Networking. GreeNets 2018. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 269, pp 142-153, ISSN 1867-8211, Springer, Cham, DOI: [10.1007/978-3-030-12950-7\\_12](https://doi.org/10.1007/978-3-030-12950-7_12)

### Journal Articles (9)

1. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon Risk Reduction in Public Buildings with Regular Occupancy: A Case Study in Minho Region, Portugal", IOP Conf. Ser.: Earth and Environmental Science, Volume 503, DOI: [10.1088/1755-1315/503/1/012068](https://doi.org/10.1088/1755-1315/503/1/012068)
2. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon risk assessment in a low-energy consumption school building: A dosimetric approach for effective risk management", Energy Reports, Volume 6, Supplement 1, 2020, Pages 897-902, ISSN 2352-4847, DOI: [10.1016/j.egy.2019.11.155](https://doi.org/10.1016/j.egy.2019.11.155)
3. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon risk analysis in a set of public buildings in Minho region, Portugal: from short-term monitoring to radon risk assessment", Procedia Structural Integrity, Volume 22, 2019, Pages 386-392, ISSN 2452-3216, DOI: [10.1016/j.prostr.2020.01.048](https://doi.org/10.1016/j.prostr.2020.01.048)
4. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon Risk Management in public buildings in north-west Portugal: from short-term characterization to the design of specific mitigation actions", International Journal of Recent Technology and Engineering, Volume 8 (1), 2019, Pages 90-96, ISSN 2277-3878, DOI: [01.1617/vol6iss5pid001001](https://doi.org/10.1617/vol6iss5pid001001).
5. **S.I. Lopes**, J.P. Silva, A. Antão, A. Curado, "Short-Term Characterization of the Indoor Air Radon Concentration in a XII Century Monastery converted into a School Building", Energy Procedia, Volume 153, 2018, Pages 303-308, ISSN 1876-6102, DOI: [10.1016/j.egypro.2018.10.036](https://doi.org/10.1016/j.egypro.2018.10.036).
6. Curado, J.P. Silva, L. Carvalho, **S.I. Lopes**, "Indoor Radon Concentration Assessment in a Set of Single Family Houses: Case Study held in Barcelos, North of Portugal", Energy Procedia, Volume 136, October 2017, Pages 109-114, ISSN 1876-6102, DOI: [10.1016/j.egypro.2017.10.295](https://doi.org/10.1016/j.egypro.2017.10.295).



7. D. F. Albuquerque, J. M. N. Vieira, **S. I. Lopes**, C. A. C. Bastos, P. J. S. G. Ferreira, "Indoor acoustic simulator for ultrasonic broadband signals with Doppler effect". *Journal of Applied Acoustics*, Volume 97, October 2015, Pages 140-151, ISSN 0003-682X, **IF: 1.269**, DOI:[10.1016/j.apacoust.2015.04.010](https://doi.org/10.1016/j.apacoust.2015.04.010).
8. **S. I. Lopes**, J. M. N. Vieira, J. Reis, D. F. Albuquerque, N. B. Carvalho, "Accurate smart-phone indoor positioning using a WSN infrastructure and non-invasive audio for TDoA estimation", *Pervasive and Mobile Computing Journal*, Volume 20, July 2015, Pages 29-46, ISSN 1574-1192, **IF: 2.325**, DOI: [10.1016/j.pmcj.2014.09.003](https://doi.org/10.1016/j.pmcj.2014.09.003).
9. **S. I. Lopes**, J. M. N. Vieira, O. F. F. Lopes, N. A. S. Dias and P. R. M. Rosas, "MobiFree: A Set of Electronic Mobility Aids for the Blind". *Procedia-Computer Science Journal*, ISSN 1877-0509, Volume 14, Pages 10-19, 2012, DOI: [10.1016/j.procs.2012.10.002](https://doi.org/10.1016/j.procs.2012.10.002).

### Conference Proceedings (36)

1. H. Pereira, R. Carreira, P. Pinto, **S. I. Lopes**, "Hacking the RFID-based Authentication System of a University Campus on a Budget", WDTE 2020 – 2nd Workshop on Digital Transformation in the Enterprise, to be held in parallel with the CISTI'2020 – 15th Iberian Conference on Information Systems and Technologies, 24-27 June 2020, Sevilla, Spain.
2. A. Curado, **S. I. Lopes**, "O Gás Radão em Edifícios Escolares: da Caracterização à Mitigação", CCS 2019 – 1.ª Conferência Campus Sustentável. Faculdade de Engenharia da Universidade do Porto (FEUP), 31 de outubro de 2019, Porto, Portugal.
3. F. Pereira, **S.I. Lopes**, N. B. Carvalho, "Design of a Cost-Effective Multimodal IoT Edge Device for Building Occupancy Estimation", 2019 IEEE International Smart Cities Conference (ISC2 2019), 14-17 October, Casablanca, Morocco, 2019, URI: [10.1109/ISC-C246665.2019.9071717](https://doi.org/10.1109/ISC-C246665.2019.9071717)
4. **S. I. Lopes**, P. M. Moreira, A. M. Cruz, P. Martins, F. Pereira, A. Curado, "RnMonitor: a WebGIS-based platform for expedite in situ deployment of IoT edge devices and effective Radon Risk Management", 2019 IEEE International Smart Cities Conference (ISC2 2019), 14-17 October, Casablanca, Morocco, 2019, URI: [10.1109/ISC246665.2019.9071789](https://doi.org/10.1109/ISC246665.2019.9071789)
5. A. Curado, J. P. Silva, **S.I. Lopes**, "Radon Risk Reduction in Public Buildings with Regular Occupancy: a Case Study in Minho Region, Portugal", SBE Temuco 2019 – Sustainable and Built Environment: Urban Planning, Global Problems and Local Policies, October 16–18, Temuco, Chile.
6. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon Risk Assessment in a High-Occupancy School Building: a dosimetric approach for Radon Risk Management", ICEER2019 – 6th In-

ternational Conference on Energy and Environment Research, 22-25 July 2019, Aveiro, Portugal.

7. A. Curado, J. P. Silva, **S. I. Lopes**, "Radon Risk Analysis in a Set of Public Buildings in Minho Region, Portugal: From Short-Term Monitoring to Radon Risk Assessment", IRAS2019 – 1st International Symposium on Risk Analysis and Safety of Complex Structures and Components, 1-2 July 2019, Porto, Portugal.
8. F. Pereira, **S. I. Lopes**, J. M. N. Vieira, N. B. Carvalho and A. Curado, "Using Compact LoRa Devices for In-Building Communications", In Proceedings of the 4th Smart City 360° Summit 2018 Demos, , H. Santos and F. Portela (eds.), EAI 2019, ISBN: 978-1-63190-172-0, ISSN: 2593-7650. DOI: [10.4108/eai.21-11-2018.2280604](https://doi.org/10.4108/eai.21-11-2018.2280604).
9. **S.I. Lopes**, A. Cruz, P.M. Moreira, C. Abreu, J.P. Silva, N. Lopes, J. Vieira and A. Curado, "On the design of a Human-in-the-Loop Cyber-Physical System for online monitoring and active mitigation of indoor Radon gas concentration," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-8, DOI: [10.1109/ISC2.2018.8656777](https://doi.org/10.1109/ISC2.2018.8656777)
10. A. Curado, **S.I. Lopes**, "RnMonitor: Online Monitoring Infrastructure and Strategies for Active Indoor Air Radon Mitigation", CARIBMAT 2018: 2nd Caribbean Conference on Functional Materials, Cartagena de Indias (Colombia), February 6-9, 2018.
11. F. Pereira, P. Pinho, R. Gonçalves, N.B. Carvalho, J. Lobato, **S.I. Lopes**, "Antenna design for ultra-compact Bluetooth devices", 2017 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, San Diego, CA, USA, 2017, pp. 2619-2620, DOI: [10.1109/APUSNCURSINRSM.2017.8073352](https://doi.org/10.1109/APUSNCURSINRSM.2017.8073352).
12. J.P. Silva, A. Curado, G. Coelho, **S.I. Lopes**, "Indoor radon concentration assessment of an old granite manor house requalified as an office in the historic center of Viana do Castelo, Portugal", TEERAS2017: Third East-European Radon Symposium 2017, 15-19 May 2017, Sofia, Bulgaria, URI: <https://tinyurl.com/y8t5dfpk>
13. D. F. Albuquerque, J. M. N. Vieira, **S. I. Lopes**, T. Aguilera and F. J. Álvarez, "High energy OFDM pulse design algorithm for acoustic ToF ranging and localization," 2016 International Conference on Indoor Positioning and Indoor Navigation (IPIN), Alcalá de Henares, Spain, 2016, pp. 1-6, DOI: [10.1109/IPIN.2016.7743698](https://doi.org/10.1109/IPIN.2016.7743698)
14. D. F. Albuquerque, J. M. N. Vieira, **S. I. Lopes**, T. Aguilera and F. J. Álvarez, "Doppler resilient modulation in a CDMA-based acoustic local positioning system," 2016 International Conference on Indoor Positioning and Indoor Navigation (IPIN), Alcalá de Henares, Spain, 2016, pp. 1-8, DOI: [10.1109/IPIN.2016.7743611](https://doi.org/10.1109/IPIN.2016.7743611)
15. **S.I. Lopes**, R. Bexiga, J.P. Araújo, J.L. Cerqueira, C. Abreu, C. Paredes and J.M. Alonso, 2016. Precision livestock farming for reproductive performance optimization: a survey. Food Futures – Ethics, Science & Culture. Edited by: I. Anna S. Olsson, Sofia M. Araújo

and M. Fátima Vieira. EurSafe 2016, Porto, Portugal, 29 Sep - 1 Oct. Wageningen Academic Pub, 587-592, ISBN: 978-90-8686-288-7,e-ISBN:978-90-8686-834-6, DOI: [10.3921/978-90-8686-834-6](https://doi.org/10.3921/978-90-8686-834-6).

16. M. Migliardi, A. Merlo, **S. I. Lopes**, "Crowd-Sourcing an Ontology: Is It Feasible?", CCPS-2016: International Conference on Data Compression, Communication, Processing and Security, 22-23 September 2016, Salerno, Italy, URI: <https://tinyurl.com/y75h7r2z>.
17. A. Curado, **S. I. Lopes**, "Impact of the human occupation on indoor radon concentration: a study based on in-situ measurements for a set of households in Alto-Minho, Portugal", BEHAVE 2016 — 4th European Conference on Behaviour and Energy Efficiency, 8 – 9 September 2016, University of Coimbra, Portugal, URI: <https://tinyurl.com/ybrujb3e>.
18. **S. I. Lopes**, C. Abreu, S. Lima. R. M. Alves, "WSN-based Vineyard Monitoring System for Automatic Managing of Grape Maturity", CONFTELE 2015, 10th Conference on Telecommunications, 17–18 September, Aveiro, Portugal, URI: <https://tinyurl.com/ycgmxzey>.
19. S. J. Alves, F. A. Martins, A. I. Prata, **S. I. Lopes**, J. C. Duarte, P. Jesus, N. Silva, A. S. Oliveira and N. B. Carvalho, "High Performance Microwave Point-to-Point Link for 5G Backhaul with Flexible Spectrum Aggregation", IMS2015 International Microwave Symposium 2015, 17-22 May, Phoenix, USA, DOI: [10.1109/MWSYM.2015.7166817](https://doi.org/10.1109/MWSYM.2015.7166817).
20. **S. I. Lopes**, J. N. V. Vieira, D. Albuquerque, "Analysis of the Perceptual Impact of High Frequency Audio Pulses in Smartphone-based Positioning Systems". In Proceedings of the 2015 IEEE International Conference on Industrial Technology, Seville, Spain, 17-19th March 2015, pp.3398-3403, DOI: [10.1109/ICIT.2015.7125603](https://doi.org/10.1109/ICIT.2015.7125603).
21. T. Aguilera, F. J. Álvarez, A. Sánchez, D. Albuquerque, J. N. V. Vieira and **S. I. Lopes**, "Characterization of the Near-Far Problem in a CDMA-Based Acoustic Localization System". In Proceedings of the 2015 IEEE International Conference on Industrial Technology, Seville, Spain, 17-19th March 2015, pp.3404-3411, DOI: [10.1109/ICIT.2015.7125604](https://doi.org/10.1109/ICIT.2015.7125604).
22. G. Campos, P. Dias, J. M. N. Vieira, J. Santos, C. Mendonça, J. P. Lamas, N. Silva, **S. I. Lopes**, "Acousticave: Auralisation Models and Applications in Virtual Reality Environments". 45º Congreso Español de Acústica, 8 Congreso Ibérico de Acústica. European Symposium on Smart Cities and Environmental Acoustics, 29-31 October, Murcia, Spain.
23. **S. I. Lopes**, J. M. N. Vieira, G. Campos and P. Dias, "Sistema de Realidade Aumentada Áudio 3D para Dispositivos iOS". In Proceedings of the 12th Audio Engineering Society Brazil Conference (AES Brazil 2014); São Paulo, Brazil, 13-15 May, 2014, ISSN 2177-529X.
24. **S. I. Lopes**, J. M. N. Vieira, D. F. Albuquerque and N. B. Carvalho. "Accurate Smartphone Indoor Positioning Using Non-Invasive Audio". In Proceedings of the 2013 International

Conference on Indoor Positioning and Indoor Navigation (IPIN'2013). Montbeliard, France, 28-31 Oct 2013.

25. D. F. Albuquerque, J. M. N. Vieira, **S. I. Lopes**, C. A. C. Bastos and P. J. S. G. Ferreira. "OFDM Pulse Design with Extremely Low PAPR for Ultrasonic Location and Positioning Systems". In Proceedings of the 2013 International Conference on Indoor Positioning and Indoor Navigation (IPIN'2013). Montbeliard, France, 28-31 October 2013, URI: <https://tinyurl.com/y7jy2u5j>.
26. M. A. Alves, R. S. Sousa, **S. I. Lopes**, V. Almeida, A. J. S. Ferreira, "Voice Type Discovery". In the 19th edition of the Portuguese Conference on Pattern Recognition – RecPad 2013, Instituto Superior Técnico, Lisbon, Portugal, November the 1st, 2013, URI: <https://tinyurl.com/ybec7at8>
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28. **S. I. Lopes**, J. M. N. Vieira and D. Albuquerque, "High Accuracy 3D Indoor Positioning Using Broadband Ultrasonic Signals". Trust, Security and Privacy in Computing and Communications (TrustCom), 2012 IEEE 11th International Conference on, pp.2008-2014, 25-27 June, 2012, DOI: [10.1109/TrustCom.2012.172](https://doi.org/10.1109/TrustCom.2012.172)
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### Poster/Demo Communications (12)

1. P. Martins, **S. I. Lopes**, F. Pereira, A. Curado, "RnMonitor: an IoT-enabled Platform for Radon Risk Management in Public Buildings", 5th Smart City 360° Summit 2019 Demos, December 4-6, 2019, Braga, Portugal, URI: <http://smartcity360.org/2019/demos/>
2. F. Pereira, P. Martins, **S.I. Lopes**, J.M.N. Vieira, N.B. Carvalho and A. Curado, "RnMonitor Project Demonstrator", TECHDAYS AVEIRO 2019, October 10-12, 2019, Aveiro, Portugal, url: <http://rnmonitor.ipvc.pt/rnmonitor-demo-techdays-aveiro-2019/>
3. F. Pereira, **S.I. Lopes**, J.M.N. Vieira, N.B. Carvalho and A. Curado, "Using Compact LoRa Devices for In-Building Communications", The 4th Smart City 360° Summit 2018, November 21-23, 2018, Guimarães, Portugal. [Demo/Poster]
4. A. Curado, **S.I. Lopes**, "RnMonitor: Online Monitoring Infrastructure and Strategies for Active Indoor Air Radon Mitigation", CARIBMAT 2018: 2nd Caribbean Conference on Functional Materials, Cartagena de Indias, Colombia, 6-9 February 2018, url: <http://www-caribmat.org/>
5. A. Curado, **S.I. Lopes**, "RnMonitor: Online Monitoring Infrastructure and Strategies for Active Indoor Air Radon Mitigation", Concurso para financiamento de Projetos de Investigação Científica e Desenvolvimento Tecnológico em Institutos e Escolas Politécnicas (Projetos de IC\&DT Politécnicos), Entidade financiadora: Portugal 2020, AAC N.º 02/SAICT/2016 – Sessão Pública de Apresentação de Posters, Instituto Superior de Engenharia do Porto (ISEP), Porto, Portugal, 23-24 Novembro 2016.

6. **S.I. Lopes**, R. Bexiga, J.P. Araújo, J.L. Cerqueira, C. Abreu, C. Paredes and J.M. Alonso, 2016. Precision livestock farming for reproductive performance optimization: a survey. Comunicação em poster no 13th Congress of the European Society for Agricultural and Food Ethic, EurSafe 2016, FLUP, Porto, Portugal, 29 Sep – 1 Oct.
7. **S. I. Lopes**, C. Abreu, S. Lima and R. Alves, “WSN-based Vineyard Monitoring System for Automatic Managing of Grape Maturity”, Comunicação em poster na 10th Conference on Telecommunications – CONFTELE 2015, Aveiro, Instituto de Telecomunicações, 17-18 September, 2015.
8. **S. I. Lopes**, J. M. N. Vieira, N. B. Carvalho. “Accurate Smartphone Indoor Positioning using a WSN Infrastructure and Non-Invasive Audio for TDoA Estimation”. Research Day 2014, Universidade de Aveiro, 03 de Junho, 2014.
9. M. A. Alves, R. S. Sousa, **S. I. Lopes**, V. Almeida, A. J. S. Ferreira, “Voice Type Discovery”. In the 19th edition of the Portuguese Conference on Pattern Recognition – RecPad 2013, Instituto Superior Técnico, Lisbon, Portugal, November the 1st, 2013.
10. **S. I. Lopes**, J.M.N. Vieira, “Audio Augmented Reality System for Museums”, Bolsa de inovação em Turismo da 2ª Conferência Internacional INVTUR 2012, “Turismo em tempos de mudança: Conhecimento e práticas na construção de um novo rumo para o sector do turismo no futuro”. Universidade de Aveiro, 16 a 19 de Maio, 2012.
11. D. F. Albuquerque, J. M. N. Vieira, **S. I. Lopes**, C. A. C. Bastos, P. J. S. G. Ferreira, “Indoor Ultrasonic Simulator for Moving Objects Using Delay Filters”, In the 2011 International Conference on Indoor Positioning and Indoor Navigation (IPIN’2011), Guimarães, Portugal, 21-23 Setembro 2011.
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### **Oral Communications (19)**

1. **S. I. Lopes**, S. Bogers, P. M. Moreira, A. Curado, “A Visual Analytics Approach for Effective Radon Risk Perception in the IoT Era”, Urb-IoT 2019 – 4th EAI International Conference on IoT in Urban Space, December 4-6, 2019, Braga, Portugal.
2. F. Pereira, **S.I. Lopes**, N. B. Carvalho, “Design of a Cost-Effective Multimodal IoT Edge Device for Building Occupancy Estimation”, 2019 IEEE International Smart Cities Conference (ISC2 2019), 14-17 October, Casablanca, Morocco, 2019.

3. **S. I. Lopes**, P. M. Moreira, A. M. Cruz, P. Martins, F. Pereira, A. Curado, "RnMonitor: a WebGIS-based platform for expedite in situ deployment of IoT edge devices and effective Radon Risk Management", 2019 IEEE International Smart Cities Conference (ISC2 2019), 14-17 October, Casablanca, Morocco, 2019.
4. **S. I. Lopes**, "Design of Compact LoRa Devices for Smart Building Applications", SmartCity 360° Summit 2018, GreeNets 2018 – 5th EAI International Conference on Green Energy and Networking, November 21-23, 2018, Guimarães, Portugal.
5. **S. I. Lopes**, "On the design of a Human-in-the-Loop Cyber-Physical System for online monitoring and active mitigation of indoor Radon gas concentration", The 4th IEEE International Smart Cities Conference (ISC2) 2018, Kansas City, MO, USA, 16-19 of September, 2018.
6. **S. I. Lopes**, "Short-Term Characterization of the Indoor Air Radon Concentration in a XII Century Monastery converted into a School Building", The 5th International Conference on Energy and Environment Research (ICEER 2018), Prague, Czech Republic, July 23-27, 2018.
7. **S. I. Lopes**, "RnMonitor: project scope and next steps", 1st Workshop on Radon Monitoring and Mitigation Strategies in Public Buildings, ESTG/IPVC, Viana do Castelo, Portugal, 26 of January, 2018, url: <http://rnmonitor.ipvc.pt/workshops>
8. **S. I. Lopes**, "SingingStudio/Masterpitch: Software applications for iOS platforms", Assistive Real-Time Technologies in Singing Workshop, Faculdade de Engenharia da Universidade do Porto FEUP/UP, Portugal, 22 de Fevereiro de 2014.
9. **S. I. Lopes**, "Sistema de Realidade Aumentada Áudio 3D para Dispositivos iOS", Visualization and Perception Lab Workshop on Auralisation Models and applications, Centro de Computação Gráfica, Universidade do Minho, Guimarães, Portugal, 26 de Março de 2014.
10. **S. I. Lopes**, "Accurate Smartphone Indoor Positioning Using Non-Invasive Audio". 2013 International Conference on Indoor Positioning and Indoor Navigation – IPIN 2013. Montbéliard – Belfort, France, 28-31st October, 2013.
11. **S. I. Lopes**, "Redes de Sensores Sem Fios: Enquadramento e Aplicações", 2ªs Jornadas de Engenharia Electrónica e Redes de Computadores (EERC), Escola Superior de Tecnologias e Gestão, Instituto Politécnico de Viana do Castelo, Viana do Castelo, 31 de Maio de 2013.
12. **S. I. Lopes**, J. M. N. Vieira, "Ultra-sonic user-tracking for indoor auralisation", Signal Processing Lab Workshop on Auralisation Models and applications. IEETA – Instituto de Engenharia Electrónica e Telemática de Aveiro, Portugal, 10 de Abril de 2013.

13. **S. I. Lopes**, "MobiFree: A Set Of Electronic Mobility Aids For The Blind". 4th International Conference on Software Development for Enhancing Accessibility and Fighting Info-exclusion (DSAI2012). Douro Region, Portugal, 19-22 July, 2012.
14. **S. I. Lopes**, "High Accuracy 3D Indoor Positioning Using Broadband Ultrasonic Signals". 11th IEEE International Conference on Ubiquitous Computing and Communications. Liverpool, UK, 25-27 June, 2012.
15. **S. I. Lopes**, "Broadband Ultrasonic Signals for High Accuracy Indoor Positioning", I Workshop on Ultrasound and Applications. Universidade de Aveiro, Portugal, 6 de Dezembro 2012.
16. **S. I. Lopes**, Albuquerque D.F., Vieira J.M.N., "Sistema de Localização Acústica 3D para ambientes interiores", 3rd CAMBADA Workshop, Universidade de Aveiro, Portugal, 14 de Dezembro 2011.
17. **S. I. Lopes**, "Hybrid Localization in Mobile Wireless Sensor Networks", 1ªs Jornadas de Engenharia Electrónica e Redes de Computadores (EERC), Escola Superior de Tecnologias e Gestão, Instituto Politécnico de Viana do Castelo, Viana do Castelo, 9 de Junho de 2011
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## Software Published (2)

### SingingStudio App - March 2014

AppStore Link: <https://itunes.apple.com/us/app/singingstudio/id805620083?mt=8>

### Masterpitch App - November 2013

App Webpage: <http://www.masterpitchapp.com>

AppStore Link: <https://itunes.apple.com/pt/app/masterpitch/id739060431?mt=8>