

## CURRICULUM VITAE

### PERSONAL DETAILS

Name : Prof. Sergio A. VELASTIN (BSc., MSc., PhD., CEng., SMIEEE, FIET)  
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Citations : <http://velastin.org/savcv/citations.bib>  
This CV : <http://velastin.org/savcv/cvVelastin.pdf>

### MAIN HIGHLIGHTS

- Currently Senior Research Scientist (deep learning, object detection in retail environments, human action recognition). Coordinated the 'People detection' and 'Human Action Recognition in Retail' parts in Innovate UK funded projects AI-SAFE (£185K) and "Video action recognition in the urban environment, powered by AI and computer vision analytics" (£632K)
- Practical commercial research experience on OpenCV, C++, Linux, Python, Keras, deep object detectors, human action recognition, ...
- Fellow of the Institution of Engineering and Technology (FIET), UK and Senior Member IEEE
- UK Chartered Engineer
- Full Professor (UK) of Applied Computer Vision and extensive experience in the UK University sector.
- Visiting Professor at Queen Mary University of London
- Visiting Professor at University Carlos III, Madrid, Spain
- Successful supervision (~14) and co-supervision (~5) of PhD students. Currently co-supervising 3 PhD students
- **Google Scholar:** 10334 total citations, and h-index of 46<sup>1</sup>
- Creator, General Chair and organiser of the International Conference on Pattern Recognition Systems (ICPRS) and International Conference on Imaging for Crime Detection and Prevention (ICDP)
- Past president and now Director for International Relations of the Chilean Association of Pattern Recognition (a scientific association affiliated to the IAPR)
- Part of the Membership Committee of the IAPR
- International experience in Higher Education Institutions
- Marie Curie Research Professor (2015-2018)
- Member of International Advisory Boards at two leading universities in Malaysia: UM and UKM, QS-ranked 167 and 279 respectively.
- From 2000-2011, brought in €3.2M in external funding to Kingston University.
- Created two MSc courses (Kingston University) and helped marketing them for international students (India, South East Asia, Europe)
- Directed and managed an internationally-known research team (Digital Imaging Research Centre, Kingston University) of about 45 people (13 academic staff and 32 PhD students).
- Co-founder (2001) of Ipsotek Ltd (<http://www.ipsotek.com>), a well-known SME of video analytics systems, currently employing 45+ people, now part of ATOS. Winner of "CCTV

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<sup>1</sup> Source: Google Scholar (31.03.23)

System of the Year” IFSEC 2012 award for its “Tag and Track multi camera tracking system”, done in conjunction with Kingston University and British Aerospace. Created the company and brought in a major project with a European Metro (€250K, 2003) and then a first round of private investment (€1M, 2005).

- Associate Editor of the IET's Computer Vision research journal and “Sensors” research journal
- Technical coordinator of a major international project (EU-PRISMATICA, 2000-2003)
- Conference Chair/Technical Chair (IDSS, ICDP, VIE, LACNEM, IVC, IPR, CCPR, ICPRS)
- Regular reviewer for CVIU, Pattern Recognition, IEEE Trans. Cybernetics, IET Electronic Letters; IET Computer Vision, IET Image Processing, Int J. of Robotics and Control, Machine Vision Applications, IEEE Trans Image Processing, EURASIP J Image and Video Processing, ICV, IEEE Trans. Intelligent Transport Systems, Int. J. Imaging Systems and Technology, Pattern Recognition and major conferences (CVPR, IVIC, ICPR, ECCV, etc.)
- Past elected member of the Board of Governors of the IEEE's Intelligent Transportation Systems Society.
- Creator of ViHaVi and MuHAVi human action recognition datasets requested for use by 270+ researchers worldwide.
- Past Chair IET's Vision and Imaging Professional Network
- Guest Editor Special Issue Journal of Journal of Electronic Imaging (SPIE), 2015
- In addition to working experience in academia and as an entrepreneur, I have experience in industry as systems engineer and software manager.

## **UNIVERSITY EDUCATION**

1979..1982: PhD: Digital Processes Group, Department of Electrical Engineering and Electronics, UMIST. Thesis: "Software Development for a Vision System". Main application areas: pedestrian tracking, vehicular traffic, industrial inspection. Degree recognised in Chile by University of Chile (“Doctor en Ciencias con mención en Computación”, 2013)

1978..1979: MSc. (Research): Digital Processes Group, Department of Electrical Engineering and Electronics, UMIST. Thesis: "Development of Software Techniques for the Analysis of Pedestrian Flow in Interior Circulation Areas".

1975..1978: BSc. in Electronics, Department of Electrical Engineering and Electronics, UMIST. Qualifications: Honours, First Class.

## **MAIN PROFESSIONAL AND ACADEMIC ACTIVITIES:**

2018..: Senior Research Scientist, Cortexica Vision Systems, London, UK. The company was then acquired by Zebra Technologies Corp. where I am a Senior Research Scientist working on deep-learning research for object detection and human action recognition. I am also the coordinator for the company's AI research team (Chicago, London and Shanghai groups) and in charge of liaison with academia for research collaboration.

2018..: Visiting Professor, Dept. Computer Science and Engineering, University Carlos III, Madrid, Spain

2016..: Visiting Professor, School of Electronic Engineering and Computer Science, Queen Mary University of London, UK

2015..2018: UC3M-Conex Marie Curie Research Professor (project CLOSEVU: Close View Understanding, co-funded by the European Union's Marie Curie Programme and

Banco Santander), Department of Computer Science, Universidad Carlos III de Madrid, Spain.

PhD co-Supervisor (all completed) for “Video-based Human Action Recognition using Deep Learning”, (Huy-Hieu Pham at Cerema and Paul Sabatier University, France), Fiza Murtaza and Saima Nazir on Human Action Recognition (University of Engineering and Technology, Texila, Pakistan)

2014..2014: Senior Research Fellow, Queen Mary University of London (working on EU Projects LASIE and REVERIE), 6 months

2013..2015: Research Full Professor, Department of Informatic Engineering, Universidad de Santiago de Chile. Main duties: supervision of research students, procurement of externally-funded research projects, teaching Computer Vision module for Informatic Engineering degree (last year).

2010..2012: Professor of Applied Computer Vision, Kingston University. UK

2007..2012: Director, Digital Imaging Research Centre, School of Computing and Information Systems, Kingston University

2001..2014: Co-founder of Ipsotek Ltd., CEO and Director of Research.

2001..2009: Reader (Associate Professor), Digital Imaging Research Centre, Faculty of Computing, Information Systems and Mathematics, Kingston University.

Main teaching modules: Java Programming, Computer Vision, Introduction to Computing (ICT), assist in the coordination of final year projects. Conception and Programme leader of MSc in Embedded Systems and MSc in Computer Vision and Image Analysis. Module leader for Digital Signal Processing and Digital Signal Processors.

Main administrative duties: Course Director: MSc in Embedded Systems and MSc in Computer Vision (also conceived these two courses), member of University Research Ethics Committees, Chair of Faculty's Research Ethics Committee, member of Faculty Research Committee, Member of inter-faculty Electronics Developments Steering Committee, Member of the Faculty of Engineering's Mechatronics Industrial Advisory Group, fully revised and implemented new guidelines for MSc projects.

Research Student Supervision (PhD): Director of Studies for: “Tracking people in crowds across multiple cameras” (Damien Simmonet, completed), “Identification of unusual behaviour in crowds” (Beibei Zhan, completed), “Distributed Architecture for Visual Surveillance Systems” (Valera, Completed), “Multi camera tracking” (F Yin, completed), “Optimisation of visual surveillance algorithms using Digital Signal Processors” (Virk), “Visual surveillance for road traffic monitoring” (Buch, completed), “Tag and Track in multi-camera networks” (Colombo, completed).

1990..2001: Lecturer, Department of Electronic Engineering (Division of Engineering), King's College London. Senior Lecturer from September 1999.

Main teaching modules: Computer Programming, Software Systems, Product Development, Linear Circuits, Signals and Signal Processing, MATLAB labs, Computer Engineering II.

Main administrative duties: MSc. Organiser (Research stream: Computer Vision Engineering), Team Leader of the "Vision and Robotics Laboratory", Divisional IT Manager (350 desktops, 40+ Unix workstations, 2 Novell Servers, 11 Unix servers, 1 NT server, 600 users), Curricular design for subject area "Software Systems", Coordinator of an ERASMUS/Socrates exchange programme, Organiser of final year projects, Programme Leader for MEng/BEng degree "Computer Systems and Electronics" (CSE).

Research supervision (PhD), all completed: "Mahalanobis Distance Hough Transform with Extended Kalman Filtering", "Transputer-based computer architectures for cooperating robots", "Crowd monitoring using image processing", "Towards verification of MASCOT designs using Petri Nets", "Coloured Petri Nets for software design verification", "Modelling and Verification of MASCOT designs using LOTOS", "Real-time motion estimation for complex image scenes", "Pedestrian detection, tracking and behaviour classification".

1989..1990: Software Manager, Rosand Precision Ltd. Responsible for real-time software/firmware design and approval of final issues. Direct involvement with C (Windows, MS-DOS, Z80), Assemblers (Intel xx86, Z80), Pascal (MS-DOS), Source Code Control, PC hardware, worldwide customer support, software documentation, supervision of junior staff and contractors.

1988..1989: Senior Systems Engineer, Terrafix Ltd. (Land Navigation Systems). Basic research (Kalman filters), system design and implementation of dedicated Land Navigation System (vehicle location). Then, promoted to Software Manager (responsible for all the company's software products).

1986..1987: Senior Scientific Officer, Clinical Psychology Department, North Staffordshire Health Authority. Re-design of dedicated microprocessor system/PROLOG software for automated administration of standard intelligence tests.

1985..1986: Professor, Institute of Informatics, Universidad Austral de Chile (UACH), Valdivia, Chile.

Main teaching modules: Linear Systems Theory, Control systems.

Main administrative duties: Head of Engineering Group, Head of the Institute (15 academic staff), curricular design, member of university's Informatics Committee (short and long-term computing strategy for the university).

1982..1984: Research Fellow in Robotics, Department of Electronic and Electrical Engineering, University of Surrey. SERC-sponsored project: "The Programming and Control of Adaptive Industrial Robots". Design and Development of dedicated digital controller (hardware and software) for the HAL-90 Spraying Robot. Mathematical modelling (through symbolic programming) of robot kinematics. Vision sensors. Numerical simulation, 3-D graphics.

## RESEARCH GRANTS

1. CLOSEVU: Close View Understanding, co-funded by the **European Union's Marie Curie Programme** and Banco Santander), Department of Computer Science, Universidad Carlos III de Madrid, Spain, from Sept. 2015, duration 3 years.

2. LASIE: Large Scale Information Exploitation of Forensic Data , **European Commission** Framework 7 Security Programme, Duration 42 months, (17 partners), 42 months from May 2014, helped with conception and proposal, linked to Queen Mary University of London (€800K). Now advisor.
3. Chair of Excellence, Departamento de Informática, Universidad Carlos III de Madrid, Spain, funded by **Banco Santander**, Duration 6 months, started Feb. 2014, €60,000
4. OBSERVE (On-Board Surveillance for Effective Response in Vehicle Environments), funded by the **Chilean National Science and Technology Council** (Conicyt), Fondecyt Programme grant no. 1140209, Duration 3 years, started March 2014, in collaboration with University College London, INRIA, TecnoAccion, Chilean Ministry of Transport and Kingston University, €90,000
5. "Autonomous Pedestrian Detection", **Chilean Research Council**, P. Zegers (PI, Universidad de Los Andes), S.A. Velastin (Kingston University, International Collaborator), Duration 36 months, started March 2012.
6. ADDPRIV, STREP Project funded by the **European Commission** Framework 7, Duration 36 months, started December 2010 €400,000
7. SieVe, "Surveillance Video Data Mining", **EPSRC** (UK Research Council), Industrial Case with BAe Systems Ltd., J. Orwell and S.A. Velastin, Value €100,000, Duration 42 months (2010)
8. HAR, "Human Action Recognition", Industry, Contracted Research with Industrial Collaborator (**Bosch Research Labs**), S.A. Velastin, J.-C. Nebel and F Martinez, Value €135,000, Duration 6 months (2010)
9. PROTECTRAIL (Protection of European Railways from Security and Safety Threats), Integrated Project funded by the **European Commission** Framework 7 (€13M total, €100,000 for KU). 25 partners including major railway operators and manufacturers. Duration 48 months, (2010)
10. "Evaluation of Appearance-based Pedestrian Detection", Industry, Contracted Research with **LG Electronics**, D. Makris, S.A. Velastin, T. Ellis, Junaed Rahman, D Simonnet and F. Yin, Duration 4 months (2010), €100,000
11. "Tag and Track for Security and Forensics", funded by **British Aerospace/Ipsotek Ltd**, S.A. Velastin and J. Orwell, (€384,000 total, €120,000 for KU), Duration 12 months, (2009)
12. "Tracking individuals in crowds with a mixed network of static and PTZ (Pan-Tilt-Zoom) cameras", PhD Studentship funded jointly by **Faculty of CISM and Roke Manor Research (Siemens)**, S.A. Velastin, P. Remagnino and J. Orwell, Duration 36 months, (€78,000, 2009)
13. "A DVR for VCA (Video Contents Analysis)", Industry, Contracted Research with The **SYAC Group** (Italy), S.A. Velastin and T. Ellis, Value €14,000, Duration 18 months (2009)
14. FARM, "Framework for the Analysis of Rich Media", DBERR, Knowledge Transfer Partnership with **Pharos Ltd**, J. Orwell and S.A. Velastin, Value €120,000, Duration 24 months (2009)
15. "Experimental Study of Vehicle Passenger Interactions at Public Transport Stations", **Chilean Research Council** project No. 1080381, Rodrigo Fernández (PI, Universidad de Los Andes, Chile), S.A. Velastin (Kingston University, International Collaborator), Duration 36 months, started March 2008
16. "Classification of Vehicles and their Behaviour for Urban Traffic Scenes", Industry, PhD Sponsorship with **Transport for London**, S.A. Velastin and J. Orwell, €78,000, Duration 36 months (2007)
17. "Optimisation of Computer Vision Algorithms using Digital Signal Processors", Industry, PhD Sponsorship with **Ipsotek Ltd**, S.A. Velastin and W. Huang, Value €78,000, Duration 36 months (2007)
18. BARCO, "Robust wide-area multi-camera tracking of people and vehicles to improve CCTV visualisation", Industry, Contracted Research with **Barco View** (Belgium), S.A. Velastin and D. Makris, €78,000, Duration 36 months (2007)

19. CARETAKER: "Content Analysis and REtrieval Technologies to Apply Knowledge Extraction to massive Recordings", **EU-Framework 6** (IST Programme), S.A. Velastin and J. Orwell, Mar 2006-Sept 2008, €340,000. Partners included Thales Communications, INRIA, Multitel, Rome Public Transport.
20. "Visual Modelling of People Behaviours and Interactions for Professional Skills Training", **European Office of Aerospace Research & Development** (US Air Force Office of Scientific Research), P. Remagnino (PI), S.A. Velastin and S. Rush, \$45,000, January 2006 – December 2007
21. REASON: "Robust Methods for Monitoring and Understanding People in Public Spaces", **EPSRC**, Crime Prevention and Detection Technologies, November 2005-Jan 2009, €192,000 for KU (in collaboration with University College London (Centre for Transport Studies) and University of Reading (Computational Vision Research Group). Collaborators: Home Office, Thales Research UK, Crime Concern, Computer Recognition Systems Ltd.
22. "A UK-Japan Partnership on Ambient Intelligence", **EPSRC** Travel grant (Japan), €24,000, P. Remagnino (PI), S.A. Velastin and N. Monekosso, May 2005- April 2007
23. "Modelling Crowd Dynamics", Industry, PhD Sponsorship with BT, S.A. Velastin and P. Remagnino, €20,000, Duration 24 months (2005)
24. SERVE: "Surveillance, Evaluation, Research, Validation, and Exploitation", **EPSRC** Network, Crime Prevention and Detection Technologies Programme, S.A. Velastin (for Kingston University), T. Troscianko (Bristol) et al, £60,000 Duration 36 months (from Jan 2004).
25. "Documentation, enhancements and testing of a MIPSAs System", **Ipsotek Ltd.**, Nov 03 – Jan 04, €11,000.
26. "Getting the best use of CCTV in the Railways", **Rail Safety and Standards Board**, Jan-03 to Aug-03, in collaboration with Mott MacDonald Ltd. and Ipsotek Ltd., €116,000
27. COHERENT: "Computational HEteRogeneously timed NeTworks", **EPSRC**, July 01 – Oct 04, Jointly with Newcastle University, A.C. Davies (PI) and S.A. Velastin, €297,000
28. "IPSATAC: An Implementation of a MIPSAs Surveillance System for Rome", **European Commission** (MIRACLES Project) and **ATAC** (Rome Transport Authority), 15 months from September 2002, €135,000.
29. ADVISOR: "Annotated Digital Video for Surveillance and Optimised Retrieval" (networked vision and archiving systems for improved surveillance in public transport systems), **EU Framework 5**, 39 months from January 2000. In collaboration with Thales Research (UK) Ltd., University of Reading, INRIA, Bull (France), €105,000
30. PRISMATICA: "Pro-active Integrated Systems for Security Management by Technological Institutional and Communication Assistance" (improvements to security in public transport systems), **EU Framework 5**, 36 months from April 2000. In collaboration with London Underground, Paris Metro, Lisbon Metro and other European operators. €620,000. S Velastin was Project's Technical Coordinator.
31. PERSEC: "Assessment of Image Processing techniques as a means of improving Personal Security in Public Transport", S.A. Velastin (PI), R. Allsop (PI) and N. Tyler (both at Centre for Transport Studies, University College London), **EPSRC**, April 1999 for 36 months, €109,000.
32. COMFORT (Asynchronous Communication Mechanisms for Real Time Systems), A.C. Davies (PI) and S.A. Velastin, in collaboration with Newcastle University. **EPSRC** April 1998-March 2001, £152,820.
33. CROMATICA: "Crowd Management with Telematic Imaging and Communications Assistance", **EC Framework 4**, Telematics Programme. Main partners: London Underground, Paris Metro, Milan Metro, Metropolitan Police, BAA, UCL, INRETS (France). Jan 96 (36 months), 1 MECU. S.A. Velastin: Main programme conception, management of main workpackage (vision systems).

34. DIAMOND: Data Interaction Architecture, Multiple Object Network Demonstrators, **British Aerospace**, S.A. Velastin (PI) and A.C. Davies, Dec. 1993, 12 months, £38,000. Collaboration continues to date.
35. "Incident Detection and Data Gathering For Crowds in Confined Areas Using Image Processing", S.A. Velastin (PI) and A.C. Davies, R Allsop (PI) [Transport Studies Group, UCL] and A Penn [Bartlett School of Architecture and Planning, UCL], **SERC** Sept. 1993, 27 months, £84,935 (Total: £209,000)
36. "Sensor Guided Automated Path Planning for Robot Manipulators", **King's College London** Research Strategy Fund, March 1993, £35,156
37. "Mechatronic Teaching Material Development and Mobile Robotics Research", **King's College London** Academic Development Fund, March 1993, £7,210
38. "Transputer-based Computer Architectures for Dual-robot Control". Equipment and travel grant from the **Royal Society**. Feb. 1992, £9,589
39. "Pilot Study on Automatic Data-capture and Analysis of Crowds in Confined Areas Using Image Processing", S.A. Velastin (PI) and A.C. Davies, R Allsop (PI) [Transport Studies Group, UCL] and A Penn [Bartlett School of Architecture and Planning, UCL], **SERC** July 1992, 12 months, £16,577 (Total: £30,000)
40. "Real-Time Sensor Integration for Industrial Robots using the Blackboard Model". Equipment grant by the **University of London** Central Research Fund. July 1991. £2,500

(directly involved in 8 successful EU project bids bringing in approx. €3M to my institutions)

## OTHER

1. Runner-up "Enterprise Champion", 2012, Kingston University London
2. Invited guest editor for special issues (IET, SPIE-JEI, ...)
3. Keynote speaker on International Visual Informatics Conference 2017 (IVIC'17), 2011 (IVIC'11) and 2009 (IVIC'09), Malaysia; International Symposium on Visual Computing (ISVC'11), September 2011, Las Vegas, USA; LACNEM 2010, Cali, Colombia; PANAM Transport Conference, Chile 2012; ITS-Chile 2012, LACNEM 2015 (Colombia), IEEE Fusion International Conference, Salamanca, Spain, July 2014.
4. Referee for the Swedish Knowledge Foundation
5. Past elected member and chair of the Executive Committee of the IET's Vision and Imaging Professional Network
6. Conference Chair of IET's International Conference on Visual Information Engineering, VIE-2007, London
7. Guest Editor for: IEE Procs on Vision, Imaging and Signal Processing, Pattern Recognition Letters, Machine Vision Applications, IET Computer Vision, IET Image Processing, SPIE's J. Electronic Imaging.
8. Pioneering work (PhD thesis 1981) on video-based monitoring of pedestrians, a field later called "Visual Surveillance" and commercially "Video Analytics"
9. Native language proficiency in Spanish and English.

## MAIN CURRENT/PAST COLLABORATORS

- INRIA (French National Institute for Research in Computer Science and Control)
- University of Engineering and Technology, Pakistan
- CEREMA and Paul Sabatier University (France)
- University Carlos III, Madrid, Spain
- Kingston University London
- Queen Mary University London
- National University of Malaysia (UKM)
- University of Malaya (Malaysia)
- INRETS (French National Institute for Transport Research)

- University College London (Transport Studies)
- University of Reading (Computer Vision)
- University of Los Andes, Chile (Transport Studies, Machine Learning)
- University of Zaragoza, Spain (Computer Vision)
- Metropolitan Police (imaging for crime detection)
- Transport for London
- ATAC (Rome Transport)
- Roke Manor Research
- Thales France (Communications, Transport, Security)
- BARCO (Belgium)
- British Aerospace

### **MAIN PROFESSIONAL INTERESTS:**

Human Action Recognition in the context of surveillance, assisted living and intelligent spaces. Computer vision methods applied to improvements in safety and personal security in public and private environments. Interdisciplinary approaches (combining physical and social sciences and involving a range of stakeholders) to understand and tackle socially relevant applications such as personal security, assisted living, training and leisure.

### **PUBLICATIONS:**

#### **Under review or in print:**

1. Nudrat Nida, Muhammad Haroon Yousaf, Aun Irtaza, Sergio A. Velastin, "Spatial Deep Feature Augmentation Technique for Facial Expression Recognition Using Genetic Algorithm", accepted subject to minor revisions by Neurocomputing journal
2. M.H. Yousaf et al, "An Experimental Study of Pose Estimation-Based Human Fall Detection: "From Traditional Machine Learning to Vision Transformers", submitted to the Journal of Medical Informatics.

### **Monographs and Edited Books**

1. Badioze Zaman, H., Smeaton, A.F., Shih, T.K., Velastin, S., Terutoshi, T., Mohamad Ali, N., Ahmad, M.N. (Eds.), "Advances in Visual Informatics", Proceedings of 6th International Visual Informatics Conference, IVIC 2019, Bangi, Malaysia, November 19-21, 2019, LNCS-11870, ISBN 978-3-030-34032-2, DOI: <https://doi.org/10.1007/978-3-030-34032-2> (2019) U
2. M. Mendoza, S.A. Velastin (Eds.), Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications, 22nd Iberoamerican Congress, CIARP 2017, Valparaíso, Chile, November 7-10, 2017, Proceedings, LNCS, Springer-Verlag, Vol. 10675, <http://www.springer.com/gp/book/9783319751924> ISBN 978-3-319-75193-1 (2018) U
3. Badioze Zaman, H., Robinson, P., Smeaton, A.F., Shih, T.K., Velastin, S., Terutoshi, T., Jaafar, A., Mohamad Ali, N. (Eds.), "Advances in Visual Informatics", 5th International Visual Informatics Conference, IVIC 2017, Bangi, Malaysia, November 28-30, 2017, LNCS Vol. 10645, ISBN 978-3-319-70009-0, Springer <http://www.springer.com/978-3-319-70009-0>, (2017) U
4. Halimah Badioze Zaman, Peter Robinson, Alan F. Smeaton, Timothy K. Shih, Sergio Velastin, Azizah Jaafar, Nazlena Mohamad Ali (Eds), "Advances in Visual Informatics", 4th International Visual Informatics Conference, IVIC 2015, Bangi, Malaysia, November 17-19 2015, LNCS Vol. 9429, Springer K
5. HB Zaman, P Robinson, P Olivier, TK Shih, S.A. Velastin, Editors "Advances in Visual Informatics", Proceedings Third International Visual Informatics Conference, IVIC 2013, Selangor, Malaysia, November 13-15, ISBN: 978-3-319-02957-3 (Print) 978-3-319-02958-0 (Online) K

6. HB Zaman, P Robinson, M. Petrou, P Olivier, TK Shih, S.A. Velastin, I Nystrom, Editors "Visual Informatics: Sustaining Research and Innovations", LNCS, Springer. ISBN 978-3-642-25190-0. (2011) K
7. S. Lian, S.A. Velastin, H. T. Sencar, N. Nikolaidis, Editors, "Intelligent Multimedia Analysis for Security Applications", Springer-Verlag, ISBN-13: 978-3642117541, DOI: <http://dx.doi.org/10.1007/978-3-642-11756-5>, (2010)
8. S.A. Velastin, P. Remagnino, Editors, "Intelligent Distributed Surveillance Systems" The Institution of Electrical Engineers (IEE), ISBN/ISSN 0-86341-504-0 (2005)

## Journals

1. Saeed, Zubair, Muhammad Haroon Yousaf, Rehan Ahmed, Sergio A. Velastin, and Serestina Viriri. 2023. "On-Board Small-Scale Object Detection for Unmanned Aerial Vehicles (UAVs)" *Drones* 7, no. 5: 310. <https://doi.org/10.3390/drones7050310> (2023) UQ
2. Pascal Housam Salmane, Josué Manuel Rivera Velázquez, Louahdi Khoudour, Nguyen Anh Minh Mai, Pierre Duthon, Alain Crouzil, Guillaume Saint Pierre, Sergio A. Velastin. "3D objects detection by video and Lidar for Self-Driving cars: an ablation study", *Sensors*, 23(6), 3223; <https://doi.org/10.3390/s23063223> (2023) UQ
3. Heilym Ramirez, Sergio A. Velastin, Sara Cuellar, Ernesto Fabregas and Gonzalo Farias, "BERT for Activity Recognition Using Sequences of Skeleton Features and Data Augmentation with GAN", *Sensors*, 2023, 23(3), 1400; <https://doi.org/10.3390/s23031400> (registering DOI) <https://www.mdpi.com/1424-8220/23/3/1400> (2023, IF: 3.847) UQ
4. Paulo Aguayo, Sebastian Seriani, Jose Delpiano, Gonzalo Farias, Taku Fujiyama, Sergio A. Velastin. "Experimental method to estimate the density of passengers boarding and alighting on urban railway platforms", *Sustainability* **15/2**, <https://doi.org/10.3390/su15021000> (2023, IF: 3.889) UQA
5. Pati, Sarthak, et al. "Federated learning enables big data for rare cancer boundary detection", *Nature Communications*, **13/1**, pp. 1-17, <https://www.nature.com/articles/s41467-022-33407-5.pdf>, (2022, IF 17.69) Q
6. Heilym Ramirez, Sergio A. Velastin, Paulo Aguayo, Ernesto Fabregas and Gonzalo Farias, "Human Activity Recognition by Sequences of Skeleton Features", *Sensors* 2022, **22**(11), 3991; <https://doi.org/10.3390/s22113991> (2022) UQA
7. Nudrat Nida, Muhammad Haroon Yousaf, Aun Irtaza, Sergio A. Velastin, "A video augmentation technique for human action recognition based on genetic algorithm", *ETRI Journal* (Wiley) 1- 12. <https://doi.org/10.4218/etrij.2019-0510> (2022) UQA
8. Sara Ibrahim, Saima Nazir, and Sergio A. Velastin, "Feature Selection Using Correlation Analysis and Principal Component Analysis for Accurate Breast Cancer Diagnosis", *Journal of Imaging* 7(11), 225, <https://doi.org/10.3390/jimaging7110225> (2021), UQ
9. Yusra Khalid Bhatti, Afshan Jamil, Nudrat Nida, Muhammad Haroon Yousaf, Serestina Viriri, Sergio A. Velastin. "Facial Expression Recognition of Instructor using Deep Features and Extreme Learning Machine", *Computational Intelligence and Neuroscience*, doi: <https://doi.org/10.1155/2021/5570870> (2021) UQ
10. Mai Nguyen Anh Minh, Pierre Duthon, Louahdi Khoudour, Alain Crouzil, and Sergio A. Velastin. "3D Object Detection with SLS-Fusion Network in Foggy Weather Conditions." *Sensors* 21(20), 6711 <https://doi.org/10.3390/s21206711>, (2021) UQ
11. Hajra B Naeem; Fiza Murtaza; Muhammad Haroon Yousaf, Sergio Velastin. "T-VLAD: Temporal Vector of Locally Aggregated Descriptor for Multiview Human Action Recognition", *Pattern Recognition Letters*, Volume 148, Pages 22-28, ISSN 0167-8655, <https://doi.org/10.1016/j.patrec.2021.04.023> (2021) QA
12. H. Ramirez, S. A. Velastin, I. Meza, E. Fabregas, D. Makris and G. Farias, "Fall detection and activity recognition using human skeleton features," in *IEEE Access*, <https://doi.org/10.1109/ACCESS.2021.3061626> (2021) UQA\*

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