

CIGDEM BEYAN

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Web of Science ResearcherID: AAA-4235-2019

EDUCATION

2015 PhD.

University of Edinburgh, UK

School of Informatics

Institute of Perception, Action and Behaviour (IPAB)

Thesis Title: Detection of Unusual Fish Trajectories from Underwater Videos

First Supervisor: Prof. Robert Fisher

Second Supervisor: Dr. Vittorio Ferrari

2010 MSc.

Middle East Technical University (METU), TURKEY

Graduate School of Informatics

Department of Information Systems

GPA: 3.88/4.00

Thesis Title: Object Tracking for Surveillance Applications Using Thermal and Visible Band Video Data Fusion

Supervisor: Prof. Alptekin Temizel

2008 BEng.

Baskent University, TURKEY

Faculty of Engineering

Department of Computer Engineering

GPA: 3.64/4.00 (High Honour , ranked 2nd among the graduates of that year)

Thesis Title: Cancer Diagnosis with Gene Expression Data

Supervisor: Prof. Hasan Ogul

CURRENT WORK POSITION

March 2021-

Assistant Professor (RTD-a)
Department of Information Engineering and Computer Science (DISI)
University of Trento (UNITN), Trento, Italy

April 2021-

Affiliated Researcher
Pattern Analysis & Computer Vision (PAVIS) Research Line
Istituto Italiano di Tecnologia (IIT), Genoa, Italy

PREVIOUS WORK POSITIONS

September 2015- March 2021

Postdoctoral Researcher
Pattern Analysis & Computer Vision (PAVIS) Research Line
Istituto Italiano di Tecnologia (IIT), Genoa, Italy
Major Responsibilities: carrying out research on human behaviour understanding, particularly nonverbal communication analysis of human-human social interactions (social signal processing), co-supervising PhD students, organizing, planning and management of EU and national project proposals.

May 2015- July 2015

Course Assistant for preparing practical assignments for Introduction to Vision and Robotics <http://www.inf.ed.ac.uk/teaching/courses/ivr/>
University of Edinburgh
School of Informatics
Edinburgh, UK

September 2011- May 2015

Guest Lecturer, Teaching Assistant, Tutor, Marker and Demonstrator
University of Edinburgh
School of Informatics
Edinburgh, UK

September 2008- September 2011

Research & Teaching Assistant

Baskent University
Department of Computer Engineering
Ankara, Turkey

RESEARCH INTEREST

- Multimodal Analysis of Nonverbal Social Interactions & Social Signal Processing (e.g., Leadership Identification, Personality Trait Analysis, Deception Detection, Affect Classification, etc.)
- Computer Vision & Multimedia (e.g., human/animal behaviour understanding, action recognition, trajectory analysis, anomaly detection, active speaker detection, etc.)
- Machine & Deep Learning (e.g., classification of imbalanced data, active learning, unsupervised learning, domain adaptation, self-supervised learning, representation learning, etc.)

RESEARCH PROJECTS*

October 2021-

Co-investigator of CoastVision- Computer vision to expand monitoring and accelerate assessment of coastal fish project

Funded by Research Council of Norway (Total Budget: ~1.2M €)

CoastVision uses the power of deep learning to refine and extend a computer vision pipeline for detecting, classifying and sizing the key fish species in shallow water coastal ecosystems, facilitating a transition to fully automated video analysis. Computer vision for re-identifying individuals solely based on their unique visible features is also developed.

<https://fishlarvae.org/activities/current-projects/>

April 2021-

Co-PI* of Project ARTEMIS- Assistive Robots wiTh EMotional Skills

Funded by Fondazione Valorizzazione Ricerca (VRT) (Total Budget: 24,900 €)

Developing a new approach based on artificial intelligence methods that allows social robots to interpret the emotional state of patients and assess their level of comfort in interacting with the robot.

<https://www.fondazionevrt.it/7-next-generation-2021>

**Together with* Prof. Elisa Ricci (Uni. of Trento) and Dr. Federica Arrigoni (Uni. of Trento)

March 2021-

Collaborator in AI4Media project (Total Budget: ~12M €)

Funded by European Union Funding for Research and Innovation Horizon 2020 (GA No. 951911).

AI4Media aspires to become a Centre of Excellence engaging a wide network of researchers across Europe and beyond, focusing on delivering the next generation of core AI advances and training to serve the Media sector, while ensuring that the European values of ethical and trustworthy AI are embedded in future AI deployments.

<https://www.ai4media.eu/>

March 2021-

Collaborator in Spring Project (Total Budget: ~8.5M €)

Funded by European Union Funding for Research and Innovation Horizon 2020 (GA No. 871245).

SPRING partners are interested in Socially Assistive Robots (SARs) as they are likely to play an important role in healthcare and psychological well-being. The goal of this project is to develop a novel paradigm of socially-aware robots, grounded on modern statistical- and deep-learning methods, and harnessed by state-of-the-art algorithms for computer vision, audio-signal processing, sensor-based robot control, and spoken dialog systems.

<https://spring-h2020.eu/>

September 2019- December 2020

Multimodal Nonverbal Behavior Analysis of Public Speakers

In collaboration with: Dr. Omer Sumer (Uni. of Tübingen, Germany), Prof. Ulrich Trautwein (Uni. of Tübingen, Germany) and Prof. Enkelejda Kasneci (Uni. of Tübingen, Germany)

September 2015- September 2019

Multimodal Identification of Emergent Leaders in Small Group Social Interactions

<https://pavis.iit.it/projects/leadership>

In collaboration with: Dr. Francesca Capozzi (McGill University, Canada), Prof. Cristina Becchio (IIT C'MON, Uni. of Turin, Italy), and Prof. Vittorio Murino (IIT PAVIS, Italy)

September 2011- May 2015

Fish4Knowledge (EU 7th Framework Programme [FP7/2007-2013] under grant agreement 257024, 2011-2013)

Behaviour analysis of fish in live undersea video recordings (a part of the PhD. Thesis)

<http://groups.inf.ed.ac.uk/f4k/>

In collaboration with: Dr. Bastiaan J. Boom (Uni. of Edinburgh, UK), Dr. Simone Palazzo (Uni. of Catania, Italy), Dr. Concetto Spampinato (Uni. of Catania, Italy), and Prof. Robert Fisher (Uni. of Edinburgh, UK)

September 2009- December 2010

METU Scientific Research Project Funding (BAP)

Abandoned-Object Detection System Using Thermal and Visible Band Video Cameras
<https://blog.metu.edu.tr/atemizel/projects/>

METU Computer Vision and Remote Sensing research Group

<https://ii.metu.edu.tr/metu-computer-vision-and-remote-sensing-research-group>

In collaboration with: Dr. Ahmet Yigit (METU, Turkey) and Prof. Alptekin Temizel (METU, Turkey)

September 2009- September 2011

Probabilistic Modelling of miRNA mRNA Duplexes

funded by The Scientific and Technological Research Council of Turkey (Tubitak)

Bioinference Research Group

<http://www.baskent.edu.tr/~hogul/research.htm>

In collaboration with: Prof. Hasan Ogul (Baskent Uni., Turkey)

**PhD., MSc. and BEng. thesis (see section “Education”) as well as PhD co-supervised projects (see section “supervision experience”) are excluded from this section.*

AWARDS AND DISTINCTIONS

- Received **National (Italian) scientific qualification to function as Associate Professor (Abilitazione Scientifica, Fascia II)** in sections 01/B1 (Computer Science) and 09/H1 (Information Processing Systems) (02/2022).
- The winner of the Researcher Type A (Temporary Assistant Professor) selection in University of Trento, Department of Information Engineering and Computer Science
<https://www.unitn.it/ateneo/bando-dr-valcomp/64256/valutazione-comparativa-a-n-1-posto-di-ricercatore-post-doc-art-24-co-3-lett-a-l-2402010-settore-c>
- Became **Associate Fellow of the Higher Education Academy** in recognition of attainment against the UK Professional Standards Framework for teaching and learning support in higher education (18/11/2014). <http://www.heacademy.ac.uk/>
- Received **Edinburgh Global Overseas Research Scholarship**
<http://www.ed.ac.uk/schools-departments/student-funding/postgraduate/international/global/research>
- Received **Principal Career Development Scholarship, University of Edinburgh**
<http://www.ed.ac.uk/schools-departments/student-funding/postgraduate/uk-eu/university-scholarships/development>
<https://www.ed.ac.uk/student-funding/postgraduate/scholar-case-studies>

- Received **Best Thesis Award** for MSc. Thesis
Given by Prof. Dr. Mustafa N. Parlar Education and Research Foundation, Middle East Technical University (METU), Ankara, Turkey, Thesis of the year award, 2011.
<https://parlar.org.tr/>
- Received **2010-2011 Academic year Best Thesis Award** for MSc. Thesis
Given by Middle East Technical University to Postgraduate Thesis including all institutes. <https://ii.metu.edu.tr/graduate-awards>
- Received **Alper Atalay Best Student Paper Award, first place**
19th IEEE Conference on Signal Processing and Communications Applications, April 2011, <http://vpa.sabanciuniv.edu/links/bupam/alper/odul.htm>
- Received **SPIE Student Travel Grant**, SPIE Defense, Security, and Sensing Symposium, April 2011.
- Received **2007-2008 Academic Year Baskent University Academic Achievement Scholarship**, High Honour (GPA: 3.72/4.00)
- Received **2006-2007 Academic Year Baskent University Academic Achievement Scholarship**, High Honour (GPA: 3.73/4.00)

SCIENTIFIC ACTIVITIES

Associate Editor

- *ICES Journal of Marine Science* (18 September 2018-):
 - Covering area of applications of computer vision and machine learning in marine science. <https://academic.oup.com/icesjms/pages/Editorial Board>
 - Motivated, developed and edited article theme set: Applications of machine learning and artificial intelligence in marine science, published on 20.07.2020, (received 850 reads until 04.08.2020), together with Dr. Howard I. Browman (fishlarvae.org, Norway). <https://academic.oup.com/icesjms/article/77/4/1267/5873749>

Guest Editor

- *Frontiers in Robotics and AI* (2018-2020):
 - Motivated, developed and edited research topic: Computational Approaches for Human-Human and Human-Robot Social Interactions (37773 total views and 2171 article downloads accessed on 06.04.2020), together with Prof. Vittorio Murino (IIT PAVIS, Italy, Uni. Of Verona, Italy, Huawei Technologies, Ireland), Dr. Gentiane

Venture (Tokyo Uni. of Agriculture and Technology, Japan) and Dr. Agnieszka Wykowska (IIT S4HRI, Italy). <https://www.frontiersin.org/research-topics/8447/computational-approaches-for-human-human-and-human-robot-social-interactions>

Workshop Co-organizer

- *2nd Workshop on Applications of Egocentric Vision (EgoApp)* in conjunction with International Conference on Pattern Recognition (ICPR) 2020, Milan, Italy, together with Maya Aghaei (NHL Stenden University, The Netherlands), Fernando De la Torre (Facebook Research, USA), Vittorio Murino (Huawei Technologies, Ireland), Lorenzo Natale (IIT Humanoid Sensing and Perception, Italy) and Alessio Del Bue (IIT PAVIS, Italy).

<https://egoappworkshop2020.wordpress.com/>

- Applications of Egocentric Vision Workshop (EgoApp) in conjunction with British Machine Vision Conference (BMVC) 2019, Cardiff, UK, together with Maya Aghaei (IIT PAVIS, Italy), Fernando De la Torre (Facebook Research, USA) and Vittorio Murino (IIT PAVIS, Italy).

<https://egoappworkshop.wordpress.com/>

Journal Reviewer (19)

- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Multimedia
- IEEE Transactions on Affective Computing
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Cognitive and Developmental Systems
- Pattern Recognition
- Computer Vision and Image Understanding
- Machine Vision and Applications
- Multimedia Systems
- IEEE Access
- PLOS ONE
- IET Image Processing
- Expert Systems with Applications
- EURASIP Journal on Image and Video Processing
- ICES Journal of Marine Science
- Frontiers Psychology
- Electronics Letters
- IEEE Robotics and Automation Letters
- Encyclopedia of Image Processing

Conference Area Chair (1)

- The British Machine Vision Conference (BMVC) 2021

International Conference / Workshop Reviewer (11)

- Computer Vision and Pattern Recognition (CVPR) 2022
- European Conference on Computer Vision (ECCV) 2020
- ACM International Conference on Multimedia (ACMMM) 2019, 2020, 2021, 2022
- International Conference on Machine Learning (ICML) 2022
- International Conference on Learning Representations (ICLR) 2022
- ACM International Conference on Multimodal Interaction (ICMI) 2019, 2020, 2021
- Winter Conference on Applications of Computer Vision (WACV) 2021
- International Conference on Pattern Recognition (ICPR) 2014, 2016, 2018, 2020
- International Conference on Affective Computing and Intelligent Interaction (ACII) 2019, 2021
- International Conference on Image Analysis and Processing (ICIAP) 2021
- International Conference on Motion and Computing (MOCO) 2018, 2020
- ICCV Workshop on Action Recognition with a Large Number of Classes (THUMOS) 2013
- ECCV Workshop on Multimodal Learning and Applications (MULA) 2018

International Conference Program Committee Member (5)

- ACM International Conference on Multimedia (ACMMM) 2019, 2020, 2021
- ACM International Conference on Multimodal Interaction (ICMI) 2019, 2020, 2021
- International Conference on Human Computer Interaction Theory and Applications (HUCAPP) 2019, 2020, 2021, 2022
HUCAPP is a part of VISIGRAPP (Int. Joint Conf. on Computer Vision, Imaging and Computer Graphics Theory and Applications) <http://www.hucapp.visigrapp.org/ProgramCommittee.aspx?y=2019>
- Doctoral Consortium of the Int. Conf. on Affective Computing and Intelligent Interaction (ACII) 2019
- International Workshop on Corpora And Tools for Social skills annotation @ICMI2021
<https://sites.google.com/view/cats2021workshop/home>

Invited Speaker

- Investigation of Social Interactions through Visual Data Analysis
In Department of Department of Information Engineering and Computer Science, University of Trento, Trento, Italy, October 14, 2020.
- Social Signal Processing Approaches for Emergent Leadership
In Department of Multimedia Informatics, Graduate School of Informatics, Middle East Technical University, Ankara, Turkey, December 27, 2017.
<https://ii.metu.edu.tr/announcement/social-signal-processing-approaches-dr-cigdem-beyan>

Invited Conference Session Moderator

- Social *Signal Processing Breakout Discussion Session* at ACM International Conference on Multimodal Interaction (ICMI) 2020.

<https://twitter.com/AcmIcmi/status/1321089713629966340>

SUPERVISION EXPERIENCE

2015- 2018

Nicolò Carissimi (IIT)

PhD Thesis *co-supervising* together with Prof. Vittorio Murino

PhD Thesis Title: Investigating Social Interactions Using Multimodal Nonverbal Features

2017-2020

Muhammad Shahid (IIT)

PhD Thesis *co-supervising* together with Prof. Vittorio Murino

PhD Topic: Social Interactions Analysis through Deep Visual Nonverbal Features

2019-

Giancarlo Paoletti (IIT)

PhD Thesis *co-supervising* with Dr. Alessio Del Bue

PhD Topic: Unsupervised Feature Learning for Human Action Recognition

2021-2022

Francesco Tonini (UniTN)

Internship Supervisor

Master Thesis co-supervisor with Prof. Elisa Ricci

Topic: Multimodal Gaze Target Detection in-the-Wild

2021-2022

Martina Rama (UniTN)

Internship Supervisor

Topic: Social Group Detection in Human-Robot Interaction Scenarios

TEACHING EXPERIENCE

February 2022-

Lecturer (Docente titolare del corso) in The University of Trento, Trento, Italy.

Introduction to Machine Learning (in total 48h, delivered 24h face-to-face, CFU=6)

https://www.esse3.unitn.it/Guide/PaginaADErogata.do?ad_er_id=2021*N0*N0*S2*53694*93492&ANNO_ACCADEMICO=2021&codice_docente=77997&mostra_percorsi=S

February 2022- March 2022

Lecturer (Docente titolare del corso) in The University of Trento, Trento, Italy.

Multimodal Machine Learning PhD course (in total 20h, delivered 10h online, 3 credits, 52 students registered)

<https://iecs.unitn.it/node/1165>

February 24-25 2022

Lecturer in International AI Doctoral Academy (AIDA) Short course “Human Behavior Analysis with a Social Signal Processing Perspective” (104 students registered, in total 4h, online)

<https://groups.google.com/g/ML-news/c/bocXW7KndFg>

<https://www.i-aida.org/course/human-behavior-analysis-with-a-social-signal-processing-perspective/>

September 2011- May 2015

Tutor, Lab Demonstrator, Teaching Assistant, Marker and Guest Lecturer
in University of Edinburgh School of Informatics, Edinburgh, UK.

All courses were delivered in English.

- Advanced Vision (Year 4 Undergraduate & MSc):
Marker (33+33 hours) & Guest Lecturer (2 hours) <http://www.inf.ed.ac.uk/teaching/courses/av/>
- Introductory Applied Machine Learning (Year 3 Undergraduate):
Tutor (8+8 hours) <http://www.inf.ed.ac.uk/teaching/courses/iaml/>
- Database Systems (Year 3 Undergraduate):
Tutor (24 hours) & Marker (55 hours) <http://homepages.inf.ed.ac.uk/libkin/teach/dbs13/>
- INF-1-DA: Informatics 1 - Data and Analysis (Year 1 Undergraduate):
Tutor (16+16+16 hours) & Marker (25+25+25 hours)
<http://www.inf.ed.ac.uk/teaching/courses/inf1/da/2013-2014/>
- INF-1-CP: Computer Programming: Skills and Concepts (Year 1 Undergraduate):
Demonstrator (20 hours) & Teaching Assistant (42+36 hours)
<http://www.inf.ed.ac.uk/teaching/courses/cp/>

September 2008- September 2011

Teaching Assistant (equivalent to Tutor, Lab Demonstrator and Marker)

in Baskent University, Department of Computer Engineering, Ankara, Turkey.

All courses were delivered in Turkish.

- BIL105 Programming Laboratory 1
Programming with C (Year 1 Undergraduate):
28 practice hours per section and year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501105>
- BIL106 Programming Laboratory 2
Programming with C++ (Year 1 Undergraduate):
28 practice hours per section and year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=503&ders=501106>
- BIL231 Discrete Structures (Year 2 Undergraduate):
14 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501231>
- BIL240 Programming Languages (Year 2 Undergraduate):
14 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501240>
- BIL284 Assembly Languages (Year 2 Undergraduate):
14 practice hours per year
- BIL364 Automata Theory (Year 3 Undergraduate):
14 practice hours per year
- BIL218 Computer Organization (Year 2 Undergraduate):
14 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501218>
- BIL344 Database Systems (Year 3 Undergraduate):
28 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501344>
- BIL429 Computer Networks (Year 4 Undergraduate):
28 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501429>
- BIL464 Multimedia Systems (Year 4 Undergraduate):
14 practice hours per year
<http://angora.baskent.edu.tr/bilgipaketi/?dil=EN&menu=akademik&inner=katalog&birim=501&ders=501489>

MEMBERSHIPS

- Association for Computing Machinery (ACM) Professional Membership (2018-)
- Associate Fellow of the UK Higher Education Academy (2014-)
- Institute of Electrical and Electronics Engineers (IEEE) (2013-)
- The British Machine Vision Association (BMVA) Student Membership (2011-2014)

VOLUNTEER WORK

23-27 July 2018

Academic volunteer in DeepLearn 2018: International Summer School on Deep Learning, Genoa, Italy
Welcoming the keynote speakers, management of the meeting rooms and technical support. Interaction with participants from more than 80 countries, for a total of 72 hours of activities.

November 2011- July 2014

Turkish teacher for children and adults in Speak Turkish Edinburgh, a registered charity (SC043391) dedicated to fostering a wider understanding of Turkish language and culture in Edinburgh, Scotland, UK.
This duty covered various levels of classes such as age of 10-18 and adults.

October 2014- April 2015

President of University of Edinburgh Turkish Society

April 2014- October 2014

Secretary of University of Edinburgh Turkish Society
Actively worked on establishment (February 2014) of the society.

2008

Yearbook Preparation Community Department Coordinator
Baskent University Faculty of Engineering
Department Of Computer Engineering

2007

Baskent University Computer Society Secretary of Administrative Body

PUBLICATION LIST

Google Scholar

Citations: 748, h-index: 13, i10-index: 19, access on 20.02.2022

<https://scholar.google.com/citations?user=VmjUxckAAAAJ&hl=en>

Peer Reviewed Book Chapters (3)

[B03]	C. Beyan , "Unusual Trajectory Detection: Advances", In Encyclopedia of Image Processing, 1st Edition, Phillip A. Laplante (Editor), Taylor & Francis Group: New York, pp: 766-781. doi: 10.1201/9781351110273-140000116
[B02]	C. Beyan , "Fish Behavior Analysis", In Fish4Knowledge: Collecting and Analyzing Massive Coral Reef Fish Video Data, Chen-Burger et al. (Editors), Springer. doi: 10.1007/978-3-319-30208-9
[B01]	C. Beyan , and R. B. Fisher, "Hierarchal Decomposition for Unusual Fish Trajectory Detection", In Computer Vision and Pattern Recognition in Environmental Informatics, Zhou et al. (Editors), IGI Global. doi: 10.4018/978-1-4666-9435-4.ch001

Peer Reviewed Journal Papers (17)

[J17]	C. Beyan , S. Karumuri, G. Volpe, A. Camurri, and R. Niewiadomski, "Modeling Multiple Temporal Scales of Full-body Movements for Emotion Classification", IEEE Transactions on Affective Computing, Early Access 2021. doi: 10.1109/TAFFC.2021.3095425
[J16]	C. Beyan* , M. Shahid* and V. Murino, " RealIVAD: A Real-world Dataset for Voice Activity Detection", IEEE Transactions on Multimedia, in IEEE Transactions on Multimedia, vol. 23, pp. 2071-2085, 2021. doi: 10.1109/TMM.2020.3007350 <i>* indicates equal contribution</i>

[J15]	C. Beyan , A. Zunino, M. Shahid and V. Murino, "Personality Traits Classification Using Deep Visual Activity-based Nonverbal Features of Key-Dynamic Images", IEEE Transactions on Affective Computing, vol. 12, no. 4, pp. 1084-1099, 2021. doi: 10.1109/TAFFC.2019.2944614.
[J14]	C. Beyan , and H. I. Browman, "Setting the stage for the machine intelligence era in marine science", ICES Journal of Marine Science, vol. 77, no. 4, pp. 1267–1273, June 2020. doi: 10.1093/icesjms/fsaa084
[J13]	C. Beyan , V. Murino, G. Venture and A. Wykowska, "Editorial: Computational Approaches for Human-Human and Human-Robot Social Interactions", Frontiers in Robotics and AI, vol. 7, no. 55, 2020. doi: 10.3389/frobt.2020.00055.
[IJ12]	F. Capozzi, C. Beyan , A. Pierro, A. Koul, V. Murino, S. Livi, A. P. Bayliss, L. Ristic, C. Becchio, "Tracking The Leader: Gaze Behaviour In Group Interactions", ISCIENCE, 16, pp. 242-249, 2019. doi: 10.1016/j.isci.2019.05.035.
[IJ11]	C. Beyan , V. M. Katsageorgiou, V. Murino, "A Sequential Data Analysis Approach to Detect Emergent Leaders in Small Groups", IEEE Transactions on Multimedia, vol. 21, no. 8, pp. 2107-2116, 2019. doi: 10.1109/TMM.2019.2895505.
[IJ10]	C. Beyan , V. M. Katsageorgiou, R. Fisher, "Extracting Statistically Significant Behaviour from Fish Tracking Data With and Without Large Dataset Cleaning", IET Computer Vision, vol. 12, no. 2. pp. 162-170, 2018. doi: 10.1049/iet-cvi.2016.0462.
[IJ09]	C. Beyan , F. Capozzi, C. Becchio, and V. Murino, "Prediction of the Leadership Style of an Emergent Leader Using Audio and Visual Nonverbal Features", IEEE Transactions on Multimedia, vol. 20, no. 2, pp. 441-456, 2018. doi: 10.1109/TMM.2017.2740062.
[IJ08]	C. Beyan , B. Boom, J. Liefhebber, K-T Shao, and R. Fisher, "Natural Swimming Speed of Dascyllus reticulatus Increases with Water Temperature", ICES Journal of Marine Science, vol. 72, no. 8, pp. 2506-2511, 2015. doi: 10.1093/icesjms/fsv104.
[IJ07]	C. Beyan , R. Fisher, "Classifying Imbalanced Data Sets Using Similarity Based Hierarchical Decomposition", Pattern Recognition, vol. 48, no. 5, pp. 1653-1672, 2015. doi: 10.1016/j.patcog.2014.10.032.

[IJ06]	C. Beyan , A. Temizel, "A Multimodal Approach for Individual Tracking of People and Their Belongings", Imaging Science Journal, vol. 63, no. 4, pp. 192-202, 2015. doi: 10.1179/1743131X14Y.0000000101.
[IJ05]	S. McDonagh, C. Beyan , P. X. Huang and R. B. Fisher, "Applying semi-synchronised task farming to large-scale computer vision problems", International Journal of High Performance Computing Applications, vol. 29. no. 4, pp. 437-460, 2015. doi: 10.1177/1094342014532965.
[IJ04]	B. J. Boom, J. He, S. Palazzo, P. X. Huang, C. Beyan , H. Chou, F. Lin, C. Spampinato, R. B. Fisher, "A research tool for long-term and continuous analysis of fish assemblage in coral-reefs using underwater camera footage", Ecological Informatics, vol. 23, pp. 83-97, 2014. doi: 10.1016/j.ecoinf.2013.10.006.
[IJ03]	C. Spampinato, E. Beauxis-Aussalet, S. Palazzo, C. Beyan , J. van Ossenbruggen, J. He, B. Boom, X. Huang, "A rule-based event detection system for real-life underwater domain", Machine Vision and Applications, vol. 25, no. 1, pp. 99-117, 2014. doi: 10.1007/s00138-013-0509-x.
[IJ02]	C. Beyan , A. Temizel, "Adaptive Mean-Shift for Automated Multi Object Tracking", IET Computer Vision, vol. 6, no.1, pp. 1-12, 2012. doi: 10.1049/iet-cvi.2011.0054.
[IJ01]	C. Beyan , A. Yigit, A. Temizel, "Fusion of Thermal and Visible Band Video for Abandoned Object Detection", Journal of Electronic Imaging, vol. 20, no. 3, pp. 1-13, 2011. doi: 10.1117/1.3602204.

Peer Reviewed International Conference (17) & Workshop Papers (5)

[IC22]	G. Paoletti, J. Cavazza, C. Beyan , A. Del Bue, "Unsupervised Human Action Recognition with Skeletal Graph Laplacian and Self-Supervised Viewpoints Invariance". In Proceedings of the 32nd The British Machine Vision Conference (BMVC), 2021. doi: ?? (Oral presentation; overall acceptance rate=??%, overall oral presentation acceptance rate=??%) (GII-GRIN-SCIE Conf. rating: A)
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[IC21]	<p>S. K. Thakur, C. Beyan, P. Morerio, and A. Del Bue, “Predicting Gaze from Egocentric Social Interaction Videos and IMU Data”, In Proceedings of ACM International Conference on Multimodal Interaction (ACM ICMI), pp. 717–722, 2021. doi: 10.1145/3462244.3479954 <i>(37.5% overall acceptance rate) (GII-GRIN-SCIE Conf. rating: A-)</i></p>
[IC20]	<p>M. Shahid, C. Beyan, V. Murino, “S-VVAD: Visual Voice Activity Detection by Motion Segmentation”, In Proceedings of IEEE Winter Conference on Applications of Computer Vision (WACV), pp. 23332-2341, 2021. doi: ?? <i>(~??% overall acceptance rate) (GII-GRIN-SCIE Conf. rating: A)</i></p>
[IC19]	<p>C. Beyan, M. Bustreo, M. Shahid, G. L. Bailo, N. Carissimi, A. Del Bue, “Analysis of Face-Touching Behavior in Large Scale Social Interaction Dataset”. In Proceedings of ACM International Conference on Multimodal Interaction (ACM ICMI), pp. 24-32, 2020. doi: 10.1145/3382507.3418876 <i>(37.5% overall acceptance rate) (GII-GRIN-SCIE Conf. rating: A-)</i></p>
[IC18]	<p>G. Paoletti, J. Cavazza, C. Beyan, A. Del Bue, “Subspace Clustering for Action Recognition with Covariance Representations and Temporal Pruning”. In Proceedings of International Conference on Pattern Recognition (ICPR), pp. 6035-6042, 2020. doi: 10.1109/ICPR48806.2021.9412060 <i>(Accepted in first review round, which has 35.6% acceptance rate, Overall acceptance rate=43.4%, Oral presentation; overall oral presentation acceptance rate=4.4%) (GII-GRIN-SCIE Conf. rating: A-)</i></p>
[IC17]	<p>M. Shahid*, C. Beyan*, V. Murino, “Voice Activity Detection by Upper Body Motion Analysis and Unsupervised Domain Adaptation”. In Proceedings of International Conference on Computer Vision (ICCV) Workshops, (10th International Workshop on Human Behavior Understanding (HBU)), 2019. doi: 10.1109/ICCVW.2019.00159 <u>* indicates equal contribution</u></p>
[IC16]	<p>M. Shahid*, C. Beyan*, V. Murino, “Comparisons of Visual Activity Primitives for Voice Activity Detection”. In Proceedings of Image Analysis and Processing (ICIAP), Lecture Notes in Computer Science, vol. 11751, E. Ricci, S. Rota Bulò, C. Snoek, O. Lanz, S. Messelodi, N. Sebe (eds), Springer, Cham, pp. 48-59, 2019. doi:10.1007/978-3-030-30642-7_5 <i>(~56% overall acceptance rate) (GII-GRIN-SCIE Conf. rating: B)</i> <u>* indicates equal contribution</u></p>

[IC15]	<p>N. Carissimi, P. Rota, C. Beyan, V. Murino, "Filling the Gaps: Predicting Missing Joints of Human Poses Using Denoising Autoencoders", In Proceedings of European Conference on Computer Vision (ECCV) Workshops, (9th International Workshop on Human Behavior Understanding (HBU)), pp. 364-379, 2018. doi: 10.1007/978-3-030-11012-3_29 (<i>Oral Presentation</i>)</p>
[IC14]	<p>C. Beyan, M. Shahid and V. Murino, "Investigation of Small Group Social Interactions Using Deep Visual Activity-Based Nonverbal Features", In Proceedings of 26th ACM Multimedia (ACMMM), pp. 311-319, 2018. doi: 10.1145/3240508.3240685 (~27.5% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A++</i>)</p>
[IC13]	<p>N. Carissimi, C. Beyan, and V. Murino, "A Multi-View Learning Approach to Deception Detection", In Proceedings of 13th IEEE International Conference on Automatic Face and Gesture Recognition (IEEE FG), pp. 599-606, 2018. doi: 10.1109/FG.2018.00095 (~47% overall acceptance rate, <i>Oral Presentation</i>) (<i>GII-GRIN-SCIE Conf. rating: A-</i>)</p>
[IC12]	<p>C. Beyan, F. Capozzi, C. Becchio, and V. Murino, "Multi-task Learning of Social Psychology Assessments and Nonverbal Features for Automatic Leadership Identification", In Proceedings of ACM International Conference on Multimodal Interaction (ACM ICMI), pp. 451-455, 2017 doi: 10.1145/3136755.3136812 (~43% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A-</i>)</p>
[IC11]	<p>C. Beyan, V. M. Katsageorgiou, and V. Murino, "Moving as a Leader: Detecting Emergent Leadership in Small Groups using Body Pose", In Proceedings of 25th ACM Multimedia (ACMMM), pp. 1425-1433, 2017. doi: 10.1145/3123266.3123404 (~28% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A++</i>)</p>
[IC10]	<p>C. Beyan, F. Capozzi, C. Becchio, and V. Murino, "Identification of Emergent Leaders in a Meeting Scenario Using Multiple Kernel Learning", In Proceedings of International 2nd Workshop on Advancements in Social Signal Processing for Multimodal Interaction (ASSP4MI), in conjunction with ACM International Conference on Multimodal Interaction (ACM ICMI), pp. 3-10, 2016. doi: 10.1145/3005467.3005469</p>
[IC09]	<p>C. Beyan, N. Carissimi, F. Capozzi, S. Vascon, M. Bustreo, A. Pierro, C. Becchio, and V. Murino, "Detecting emergent leader in a meeting environment using nonverbal visual features only", In Proceedings of ACM International Conference on Multimodal Interaction (ACM ICMI), pp. 317-324, 2016.</p>

	doi: 10.1145/2993148.2993175 (~38% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A-</i>)
[IC08]	C. Beyan , R. B. Fisher, "Detection of Abnormal Fish Trajectories Using a Clustering Based Hierarchical Classifier", In Proceedings of British Machine Vision Conference (BMVC), pp. 1-11, 2013. doi: 10.5244/C.27.21 (~30% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A</i>)
[IC07]	C. Beyan , R. B. Fisher, "Detecting abnormal fish trajectories using clustered and labeled data", In Proceedings of 20th IEEE International Conference on Image Processing (IEEE ICIP), pp. 1476-1480, 2013. doi: 10.1109/ICIP.2013.6738303 (~44.5% overall acceptance rate, <i>Oral presentation</i>) (<i>GII-GRIN-SCIE Conf. rating: A-</i>)
[IC06]	C. Beyan , R. B. Fisher, "A Filtering Mechanism for Normal Fish Trajectories", In Proceedings of the 21st International Conference on Pattern Recognition (ICPR), pp. 2286-2289, 2012. (~48.5% overall acceptance rate) (<i>GII-GRIN-SCIE Conf. rating: A-</i>)
[IC05]	B. J. Boom, P. X. Huang, C. Beyan , C. Spampinato, S. Palazzo, J. He, E. Beauxis-Aussalet, S.-I. Lin, H.-M. Chou, G. Nadarajan, Y.-H. Chen-Burger, J. van Ossenbruggen, D. Giordano, L. Hardman, F.-P. Lin, R. B. Fisher, "Long-term underwater camera surveillance for monitoring and analysis of fish populations", International Workshop on Visual Observation and Analysis of Animal and Insect Behavior (VAIB), in conjunction with the 21st International Conference on Pattern Recognition, 2012. (<i>Oral Presentation</i>)
[IC04]	S. Palazzo, C. Spampinato, C. Beyan , "Event Detection in Underwater Domain by Exploiting Fish Trajectory Clustering", In Proceedings of the 1st ACM international workshop on Multimedia analysis for ecological data (MAED), in conjunction with ACM Multimedia (ACMMM), pp. 31-36, 2012. doi: 10.1145/2390832.2390840 (<i>Oral Presentation</i>)
[IC03]	C. Beyan , A. Temizel, "Mean-Shift Tracking for Surveillance Applications Using Thermal and Visible Band Data Fusion", In Proceedings of SPIE Vol. 8020, 802010, Defense, Security and Sensing: Airborne Intelligence, Surveillance, Reconnaissance (ISR) Systems and Applications VIII, pp. 1-13, 2011. doi: 10.1117/12.882838

[IC02]	H. Ogul, C. Beyan , O. Eren, K. Yildiz, T. Ercelebi, B. Sonmez, "MicroRNA target recognition from compositional features of aligned microRNA-mRNA duplexes", In Proceedings of International Symposium on Innovations in Intelligent Systems and Applications (INISTA), 2010. (Oral Presentation)
[IC01]	C. Beyan , H. Ogul, "A fuzzy k-NN approach for cancer diagnosis with microarray gene expression data", In Proceedings of 3rd International Symposium on Health Informatics and Bioinformatics (HIBIT), 2008. (Oral Presentation)

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[NC02]	Ç. Beyan , A. Temizel, "Detection of Abandoned Objects Using Thermal and Visible Band Tracking", In Proceedings of 19th IEEE Conference on Signal Processing and Communications Applications (IEEE SIU), pp. 114-117, 2011. doi: 10.1109/SIU.2011.5929600 (ORAL Presentation) (Received Alper Atalay Best Student Paper Award, first place)
[NC01]	Ç. Beyan , A. Temizel, "A Hybrid Multi Object Tracker Using Mean-shift and Background Subtraction", In Proceedings of 19th IEEE Conference on Signal Processing and Communications Applications (IEEE SIU), pp. 110-113, 2011. doi: 10.1109/SIU.2011.5929599