PERSONAL INFORMATION

Name   Daniele Ravì

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Home Page   hhttp://www.homepages.ucl.ac.uk/~rmaprav/

Orcid   https://orcid.org/0000-0003-0372-2677

Nationality   Italian and British

Date of birth   **20/11/1983**

Bibliometric Indicators (13/11/2023):

Google Scholar: Citation 3743, H-Index 21

Scopus: Citation 2518, H-Index 17

SHORT BIOGRAPHY

Dr. Daniele Raví is a reader in Artificial Intelligence (AI) for healthcare at the University of Hertfordshire, specializing in medical imaging, image-guided surgery, disease progression modeling, and smart sensing. He also holds an honorary contract as an associate professor at University College London. Raví obtained both a BSc and MSc in Computer Science, followed by a PhD in computer vision from the University of Catania. He enhanced his academic journey with a year as a PhD visiting student at the University of Surrey and gained postdoctoral experience at Imperial College London and University College London. Beyond academia, Raví gained valuable industrial experience at ST Microelectronics and two innovative startups. He actively contributed to numerous research projects funded by prestigious entities such as the EU, EPSRC/Wellcome Trust, and IUK. His work spans over 18 journal papers, articles in international conferences, and includes a patented invention. With a successful track record in securing grants exceeding £500,000 for his research projects, Raví focuses on developing and commercializing AI pipelines for healthcare applications. His adept management and leadership skills have ensured the completion of various research and industrial projects, effectively leading multidisciplinary teams. He coordinates resources and maintains effective stakeholder communication throughout project management. The outcomes of his projects have significantly impacted industry and society, resulting in cost savings and improved patient outcomes. Lastly, Raví boasts a proven record as an experienced educator, excelling in teaching AI-related modules.

ACADEMIC WORK EXPERIENCE

• Dates / Institution   August 2023 – Today **/ University of Hertfordshire (UK)**

• Department / Centre   School of Physics, Engineering and Computer Science

• Job title   **Reader in Artificial Intelligence for Healthcare**

• Main activities
- Leading and Investigating Research Projects
- Developing Cross-Disciplinary Collaborations
- Being a Module Leader
- Writing and Reviewing Grant Applications
- Publishing Research Papers
- Serving as a Reviewer/Program Committee, Guest/Associate Editor, and Area Chair
- Participating as a Panel Member in PhD and MSc Student Dissertations
- Supervising PhD/MSc Students
- Invited Speaker for Talks and Lectures

• Dates / Institution   January 2021 – August 2023 **/ University of Hertfordshire (UK)**

• Department / Centre   School of Physics, Engineering and Computer Science

• Job title   **Senior Lecturer**

• Main activities	• Conducting Independent Research
	• Clinical Translations of Research Solutions for Commercial Products
	• Delivering Engaging Talks and Lectures
	• Serving as a Module Leader
	• Grant Proposal Writing
	• Publishing High-Impact Research Papers
	• Reviewer and Program Committee Member
	• Panel Member in PhD Dissertations
	• Mentorship of PhD/MSc Students

• Dates / Institution	August 2017 – December 2020 / **University College London (UK)**
• Department / Centre	Wellcome / EPSRC Centre for Interventional and Surgical Sciences (WEISS); Centre for Medical Image Computing (CMIC)
• Job title	**Senior research fellow**
• Main activities	Supervising PhD/MSc students; giving talks/lectures; carrying out independent research to develop a data-driven statistical and computational modelling framework for neurological disease progression and to develop a super-resolution framework based on adversarial training to improve the quality of endomicroscopy images.
	Involved in the administration and management of grant projects; publishing research papers; serving as a reviewer/program committee; participating as a panel member in PhD dissertations.

• Dates / Institution	February 2014 – August 2017 / **Imperial College London (UK)**
• Department / Centre	Hamlyn Centre for Robotic Surgery
• Job title	**Research associate**
• Main activities	Carrying out independent research to develop a data-driven medical/IoT application for: i) long-term human activities, and ii) food intake detection and to develop a framework that exploits hyperspectral imaging for real-time identification of tumour margins during intra-operative surgery.

INDUSTRIAL WORK EXPERIENCE

• Dates / Employer	January 2021– January 2024 / **Queen Square Analytics (Startup) – (UK)**
• Job title	*Research and development engineer*
• Main activities	Developing AI and Machine Learning Solutions for Medical Data Quality Control System

• Dates / Employer	May 2013 – February 2014 / **Visual-Atoms (Startup) – Surrey (UK)**
• Job title	*Research and development engineer*
• Main activities	Developing an AI/machine learning algorithm for a content-based image retrieval system.

• Dates / Employer	February 2008 – November 2010 / **STMicroelectronics – Catania (IT)**
• Job title	*Research and development engineer*
• Main activities	Implementing an AI/machine learning algorithm, on embedded devices, to remove artefacts from photos (i.e., red-eye removal).

EDUCATION AND TRAINING
PhD

• Dates / Institution	September 2012 – February 2014 / **University of Surrey (UK)**
• Department / Centre	Centre for Vision, Speech and Signal Processing, Faculty of Engineering and Physical Sciences

• Qualification	*PhD Visiting Student*
• Supervisor	*Professor Miroslaw Bober*

• Dates / Institution	November 2010 – February 2014 / **University of Catania (IT)**
• Department / Centre	Department of Mathematics and Computer Science
• Qualification	*PhD in Computer Science* – scholarships granted by STMicroelectronics
• PhD thesis title	True scene understanding: Classification, Semantic Segmentation and Retrieval
• Supervisor	*Professor Sebastiano Battiato*

Master

• Dates / Institution	October 2005 – November 2007 / **University of Catania (IT)**
• Department / Centre	Department of Mathematics and Computer Science
• Qualification	*Master's degree in computer science*
• Grade	110/110 cum laude (equivalent to first-class honours/distinction)
• Thesis title	Algorithms and techniques for semantic classification of digital images

Bachelor

• Dates / Institution	October 2002 – November 2005 / **University of Catania (IT)**
• Department / Centre	Department of Mathematics and Computer Science
• Qualification	*Bachelor's Degree in computer science*
• Grade	110/110 cum laude (equivalent to first-class honours/distinction)
• Thesis title	Inverse Kinematics Solving in Java 3D

Secondary School

• Dates / Institution	September 1997 – July 2002 / **I.T.I.S. E. Torricelli - S. Agata Militello (IT)**
• Qualification	*Secondary school degree – Computer Science program*
• Grade	100/100 (equivalent to A level)

OTHER QUALIFICATIONS

• Dates / Place	November 2023 / London (UK)
• Title	**MIET - Member of the Institution of Engineering and Technology**
• Dates / Place	November 2022 / Italy
• Title	**ASN – National Academic Qualification as Associate Professor** Subject 09/H1 – Engineering
• Dates / Place	August 2022 / London (UK)
• Title	**Fellow of the Higher Education Academy (FHEA)**
• Dates / Place	August 2021 / London (UK)
• Title	**Associate Fellow of the Higher Education Academy (AFHEA)**
• Dates / Place	November 2020 / Italy
• Title	**ASN – National Academic Qualification as Associate Professor** Subject 01/B1 – Computer Science
• Dates / Place	December 2008 / Catania (IT)
• Title	**Licensed Professional Engineer (IT) – Industrial Sector - A**

GRANTS AS PRINCIPAL INVESTIGATOR OR CO-INVESTIGATOR

• Dates / Funding provider	2021 – 2024 / **UK Research and Innovation (UK)**
• Project Title	Commercialising next-generation AI models for ultra-efficient analysis of neurological clinical trials (**Application number: 74984**)
• Grant Award	£225.531
• Role	Principal Investigator

• Dates / Funding provider	2022 – 2025 / **UK Research and Innovation - Knowledge transfer partnerships**
• Project Title	An automated and optimised technical authoring and documentation system, powered by AI and NLP - Sonovision
• Grant Award	30 months associate (£194.743)
• Role	Co-Principal Investigator and Supervisor
• Dates / Funding provider	2020 – 2024 / **Elettronica S.p.A. (IT)**
• Project Title	Virtual and Augmented Reality Interfaces for Artificial Intelligence Enhanced Decision-Making Processes
• Grant Award	Two sponsored PhD studentships (equivalent to £120.000) Co-Investigator and Supervisor
• Role	
• Dates / Funding provider	2020 / **CMIC Platform – University College London (UK)**
• Project Title	Combining data-driven framework and disease progression modelling to generate high-resolution medical images
• Grant Award	6 months fellowship (equivalent to £30.000)
• Role	Principal Investigator
• Dates / Funding provider	2018 / **University College London – Sandpit Competition (UK)**
• Project Title	Neuro-Oncology Sandpit winners for developing an improved hyperspectral images system for brain cancer detection.
• Grant Award	£65.000
• Role	Co-Principal Investigator

PARTICIPATION IN RESEARCH PROJECTS

Title	European Progression of Neurological Disease initiative (EuroPOND)
Funding provider	European Union's Horizon 2020 research and innovation programme
Role	Support in coordinating the project - Research and Development
Dates	From 1/05/2018 to 31/12/2020

Title	Wellcome EPSRC Centre for Surgical and Interventional Sciences
Funding provider	Wellcome/EPSRC
Role	Supervision – Research and Development
Dates	From 21/08/2017 to 01/05/2018

Title	HypErspectraL Imaging Cancer Detection (HELICoiD)
Funding provider	European Union's FP7-ICT
Role	Leading one of the work packages - Research and Development
Dates	From 01/03/2015 to 01/04/2017

Title	Elite Sport Performance Research in Training (ESPRIT)
Funding provider	Engineering and Physical Sciences Research Council (EPSRC)
Role	Research and Development
Dates	From 01/03/2014 to 01/03/2015

Title	Smart Sensing for Surgery
Funding provider	Engineering and Physical Sciences Research Council (EPSRC)
Role	Research and Development
Dates	From 01/03/2014 to 01/03/2015

RECOGNITION AND AWARDS

• Dates / Funding provider	2017 / **Financial Conduct Authority (UK)**
• Title	Best team for strength in diversity on the Fcasprint challenge for developing new ideas to address the mental health challenges in financial services
• Dates / Funding provider	2016 / **Imperial College London (UK)**
• Title	Best presentation at Ra-symposium
• Dates / Funding provider	2008 / **Computer Science Department - University of Catania (IT)**
• Student Award	Archimede prize conferred for the excellent academic career - best student of the year

TEACHING EXPERIENCES
Visiting Professor

• Dates / Institution	07/2022 – 10/2022 / **University of Catania (UK)**
• Module	Teaching and research visit to the Department of Mathematics and Computer Science

Lecturer / Module Leader

• Dates / Institution	2021 – Today / **University of Hertfordshire (UK)**
• Module	4ENT1181– Digital Computing Principles (40 hours per year)
• Dates / Institution	2022 – Today / **University of Hertfordshire (UK)**
• Modules	6ENT1178 - 3D Vision – (22 hours per year)
	6ENT1176 - Machine Learning (42 hours per year)
• Dates / Institution	2023 – Today / **University of Hertfordshire (UK)**
• Module	7ENT1145 - Data Analytics and Artificial Intelligence (10 hours per year)

Guest Lecturer / Teaching Assistant

• Dates / Institution	2018 – 2020 / **University College London (UK) –** (5 hours per year)
• Module	MPHY0030 – Programming Foundations for Medical Image Analysis
• Dates / Institution	2018 – 2020 **/ University College London (UK)** – (20 hours per year)
• Module	COMP0028 - Computational Photography and Capture

School Teacher

• Dates / Institution	2011 / **E-Laborando S.P.A – Catania (IT) -** 20 hours
• Module	IT-Forensic / On-line payment technologies

SUPERVISION AND REVIEW EXPERIENCES
Supervision for KTP associate – In progress

• Dates / Institution	2023 – 2025 / **Sonovision – University of Hertfordshire (UK)**
• Project Title	iDOC: Artificial Intelligence Empowered Document Authoring

Supervision for PhD students – In progress

• Dates / Institution	2023 – 2026 / Computer Science – University of Catania
• Project Title	Data-Driven neurodegenerative diseases progression modelling
• Dates / Institution	2021 – 2024 / **SPECS – University of Hertfordshire (UK)**
• Project Title	Virtual and augmented reality interfaces for AI-enhanced decision-making processes

• Dates / Institution	2021 – 2025 / **SPECS – University of Hertfordshire (UK)**
• Project Title	A structure in understanding and developing smart manufacturing processes

Supervision for PhD students – Completed

• Dates / Institution	2021 – 2022 / **Computer Science – University of Catania (IT)**
• Project Title	An explainable deep learning framework for modality classifications of medical images (Abroad supervisor for 1 year)
• Dates / Institution	2018 – 2020 / **University College London (UK)**
• Project Title	Exploiting self-supervised learning on eye-tracking data to improve cognitive assessment test

Supervision for Master Students (MEng) – Completed

• Dates / Institution	2022 – 2023 / **University of Catania (IT)**
• Projects Title	Deep matric learning for patient retrieval on medical imaging
• Dates / Institution	2021 – 2022 / **SPECS – University of Hertfordshire (UK)**
• Projects Title	Automatic classification of data from wearable devices for sleep and activity recognition (2 students)

Supervision for Undergraduate Project Students (iBSc)

• Dates / Institution	2023 / / **SPECS – University of Hertfordshire (UK)**
• Project Title	Digital Twin on a Hydraulic pump for Predictive maintenance
• Dates / Institution	2019 / **Medical Sciences Department – University College London (UK)**
• Project Title	Automatic detection and processing of sleep data, from actigraphy, for potential use in predicting the likelihood of developing dementia
• Award	Nominated for the Dean's Research Prize 2020

External Examiner for PhD Thesis

• Dates / Institution	2023 / **University of Catania (IT)**
• Thesis Title	Audio Analysis via Deep Learning for Forensics and Investigation Purposes
• Dates / Institution	2022 / **University of Catania (IT)**
• Thesis Title	Spatial understanding and localization in indoor environments
• Dates / Institution	2020 / **University of Catania (IT)**
• Thesis Title	Multimedia Forensic: From Image manipulation to the Deep Fake New Threats in the Social Media Era
• Dates / Institution	2019 / **University of Catania (IT)**
• Thesis Title	Multi-Sensor Data Fusion
• Dates / Institution	2018 / **University of Catania (IT)**
• Thesis Title	Egocentric Vision-Based Localization of Shopping
• Dates / Institution	2015 / **University of Las Palmas de Gran Canaria (ES)**
• Thesis Title	Non-Iterative Super-Resolution Algorithms Enabling Efficient Real-Time FPGA Implementation for Resolution Enhancement of Video Sequences
• Dates / Institution	2015 / **University of Catania (IT)**
• Thesis Title	First Quantization Table Detection in Double Compressed JPEG Images

Panel Member for PhD Thesis (Viva)

• Dates / Institution	2023 / **University of Hertfordshire (UK)**
• Thesis Title	Impact of Imaging and Distance Perception in VR Immersive Visual Experience
• Dates / Institution	2023 / **University of Pisa (IT)**
• Thesis Title	Assessment of frailty using a wrist-worn device
• Dates / Institution	2018 / **University of Catania (IT)**
• Thesis Title	Food Understanding from Digital Images

Thesis Committee for PhD Students

• Dates / Institution	2020 / **Dementia Research Centre, University College London (UK)**
• Project Title	Novel diagnostics and monitoring for frontotemporal dementia using app-based cognitive data, eye-tracking data, and metadata from mobile phones

Technical Program Chair
- International Conference on Advanced Engineering, Technology and Applications (2023)

Area Chair
- International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (2024)

Guest Editor
- Special Issues in Robotics – Immersive Teleoperation and AI (2022)

Associated Editor
- Engineering in Medicine and Biology Society (2023)

Associated Editor
- International Conference on Biomedical and Health Informatics (2021)

Reviewer for International projects
- Evaluating 20 interdisciplinary projects on the Grant Assessment Committee for the Medical Research Future Fund – National Critical Research Infrastructure Initiative by the Australian Government's Department of Health and Aged Care and the Department of Industry, Science and Resources (2023)
- Evaluating interdisciplinary project "Monitoring Egocentric Gaze for Analysis of Behaviors and Interactions with Targets" in response to the University of Catania's (PIACERI) – 2022
- Grant application for Netherlands Organisation for Scientific Rs. (2020)

Reviewer for Journals
- Nature Communications (2023)
- Computer Methods and Programs in Biomedicine (2023)
- Artificial Intelligence Review (2023)
- Open Journal of Photogrammetry and Remote Sensing (2023)
- Computing (2023)
- IET Image Processing (2023)
- Frontiers in Aging Neuroscience (2023)
- Pervasive and Mobile Computing (2023)
- Transactions on Pattern Analysis and Machine Intelligence (2022-2023)
- Medical Image Analysis (2021-2022)
- Frontiers in Psychiatry (2021)
- Neuron (2021)
- Journal of Medical Internet Research (2021)
- Transactions on Medical Imaging (2019–2021)
- Applied Sciences (2017 – 2019)
- Journal of Biomedical and Health Informatics (2015 – 2019)
- International Conference on Robotics and Automation (2018)
- International Conference on Pattern Recognition (2018)
- Sensor (2018)
- Transaction on Neural Network (2018)
- Assistive Computer Vision and Robotics (2017)
- IET Computer Vision (2012 – 2014 and 2017)
- Pattern Recognition (2017 – 2018)
- Journal of Electronic Imaging (2011 – 2016)
- Expert Systems with Applications (2016)
- Journal of Imaging (2016)
- Transactions on Biomedical Engineering (2016)
- Computer Vision and Image Understanding (2015)
- Computer Journal (2014)
- Transaction on Circuits and Systems for Video Technol. (2011 – 2014)
- Information processing and Management of Uncertainty (2012)

	• Oxford Journal (2011)
Reviewer and Program Committee for Conferences	• Medical Image Computing and Computer-Assisted Interv. (2020–2023) • International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (2022) • Conference on Computer Vision and Pattern Recognition (2020–2021) • Winter Conference on Applications of Computer Vision (2020) • Medical Imaging with Deep Learning (2020-2021) • British Machine Vision Conference (2021) • Hamlyn Symposium (2018) • Multimedia Assisted Dietary Management (2016, 2017) • International Conf. on Biomedical and Health Informatics (2017) • International Conf. on Image Analysis and Processing (2013; 2017) • Workshop on Assistive Computer Vision and Robotics (2014) • International Conf. on Computer Vision Theory and Applications (2013)

Public engagement and outreach activities

Role	**Staff / students' supporter during International Summer Schools / Symposiums**
Dates/Place	2015 - 2016 - 2017 / Hamlyn Symposium – Imperial College London (UK) 2010 / International Summer School VISMAC – Catania (IT) 2009 - 2010 - 2011 - 2012 / International Computer Vision Summer School – (IT)
Role	**Organizer and demo presenter during public events and exhibitions**
Dates/Place	2021- 2023 / Open days at University of Herefordshire (UK) 2022 / Outreach at University of Herefordshire (UK) 2019 / WEISS outreach at University College London (UK) 2018 - 2020 / Journal club at University College London (UK) 2018 / Open days at University College London (UK) 2015 / Royal summer exhibition - London (UK) 2014 - 2016 / Open days at Imperial College London (UK)

MISCELLANEOUS

Mother language	**ITALIAN**			
Other language	**ENGLISH:**	**Reading skills**	**Writing skills**	**Verbal skills**
		Professional	Professional	Professional

Social skills	Good communication skills and excellent ability to work in a team 2019: Elected **CMIC representative** at the Institute of Healthcare Engineering 2017: Elected **Postdoc representative** at Imperial College London 2011: Elected **PhD representative** at University of Catania
Technical skills and competences	✓ Strong cross-imaging modality expertise including MRI, endomicroscopy, endoscopy, and hyperspectral imaging ✓ Expertise in pre-clinical and clinical imaging focusing on clinical translation ✓ Extensive experience with traditional image processing, computer vision (OpenCV, VLFeat), and deep learning (Torch, TensorFlow) libraries ✓ Extensive experience with modern deep learning architectures including CNN, GAN, and VAE as well as with standard machine learning algorithms including SVM, regression, random forest, Bayesian inference. ✓ Deep knowledge of data representation, classification, and time series analysis ✓ Proficiency with MATLAB, Java, C/C++, and Python

✓ Good knowledge of the Android system, Facebook API and SQL
✓ Good knowledge of Microsoft Visual Studio, GIT, PyCharm and Android Studio
✓ High problem-solving skills, specifically developed for research

Developed Mobile Apps

ActiveMiles - which is an android app developed to perform human activity recognition by exploiting a fast AI engine running on embedded devices

FoodRec - which is an android app developed to identify food images by exploiting an efficient AI engine based on Convolutional Neural Network

BIOGRAPHY

I am a Reader in Artificial Intelligence for Healthcare with expertise in the development and implementation advanced AI solutions for medical applications. My research interests and experience focus on using AI to improve the early diagnosis of diseases such as cancer and Alzheimer's, guide surgeons during surgical interventions, and develop smart sensors for patient monitoring.

I have a strong publication record, including 18 journal articles, 18 conference papers, 1 patent, and 1 white paper, and have received grant funding for my research. In my career, I have commercialized research solutions, conducted independent research, led research projects, developed cross-disciplinary collaborations, established and maintained a research profile, supervised researchers and students from diverse backgrounds, and deployed and validated AI platforms for clinical use.

In particular, I have developed different AI pipelines that have significant potential and could attract significant funding: i) ActiveMiles, which is an AI engine for processing sensor data and images from smartphones or wearable devices to measure and classify biological parameters; ii) FR-t-SNE, a deep neural network system for embedding spatio-spectral information from hyperspectral images and providing real-time visualization of brain cancer segmentation during surgery; iii) a Cycle-consistency GAN for unsupervised super-resolution of endomicroscopy images; and iv) 4D-DANI-Net, which is designed to learn a spatio-temporal model of disease progression for simulating and understanding neurodegenerative diseases such as Alzheimer's in brain MRI.

These pipelines belong to four research areas that have high impact and could attract significant funding.

The first research area focuses on developing novel AI frameworks based on optical biopsy to assist clinicians and surgeons in assessing tissue types during surgery [5, 6, 7, 8, 9, 10]. Applications in this field could help surgeons avoid mistakes during surgical procedure and help clinicians provide more accurate diagnoses by reducing the risk of missing abnormal tissue.

The second research area focuses on simulating disease progression in order to develop new patient treatments [2, 22]. Disease progression modelling involves studying the mechanisms and patterns by which diseases spread in the body in order to predict their future course. By understanding how diseases progress, we can identify effective treatments for the right patient at the right time, enabling personalized medicine.

The third research area focuses on the use of digital biomarkers [4, 12, 24, 25, 26], which are measurable characteristics that can be used to assess the health of a patient. Applications in this field aim to monitor patients using wearable and mobile devices and measure important biological parameters and patient behaviors. By monitoring these parameters, we hope to improve the early detection of diseases and reduce healthcare costs related to patient monitoring.

The fourth research area aims to develop new AI-powered frameworks for identifying abnormalities, label errors, and artifacts in medical images and providing a quality control system for large clinical datasets [1,19]. Quality control systems are important for a range of high-throughput clinical applications using automatic image-processing pipelines and are crucial in medical imaging.

REFERENCES

Prof Daniel Alexander
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Email: f.barkhof@amsterdamumc.nl

ORGANIZED WORKSHOP:

27/01/2023 and 24/02/2023 and 31/03/2023: University of Hertfordshire. **Workshop Title**: Hammer and Nail in AI

14/10/2021 and 21/10/2021: University of Hertfordshire. **Workshop Title**: Generative Adversarial Networks, Deepfakes and Adversarial learning

12/03/2021: University of Hertfordshire. **Workshop Title**: Current Applications of Machine Learning and AI

INVITED TALKS/KEYNOTE SPEAK:

12-12-23: Department of Computer Science, University of Catania, Italy - **Keynote Title**: Deep Learning for medical imaging

24-05-23: University of Hertfordshire - HHA Knowledge Exchange Event - Research Spotlight: Health & Big Data – **Keynote Title**: How AI and large clinical datasets are reshaping the healthcare infrastructure

16-05-23: Department of Computer Science, University of Catania, Italy - **Keynote Title**: Exploring Image Acquisition from Different Modalities in Medical Imaging

22-04-23: International Conference on Image Processing and Vision Engineering, Prague - **Keynote Title**: Challenges and Opportunities of AI in Medical Imaging

13-04-23: I.T.I.S. "E. Torricelli" - S. Agata M.llo, Messina - Talk Title: **Keynote Title**: Challenges and Opportunities of AI in Medical Imaging

12-04-23: University of Messina, MIFT department - Talk Title: AI In Medical Imaging and Healthcare

21-12-22: Department of Computer Science, University of Catania. **Talk Title**: AI for medical imaging, smart sensing and disease progression modelling

9-9-22: Department of Pedagogical Psychological Cognitive Sciences and Cultural Studies - University of Messina. **Talk Title:** AI for medical imaging, smart sensing and disease progression modelling

21-06-22: Department of Computer Science and Engineering – DISI - University of Bologna. **Talk Title:** AI for medical imaging, smart sensing and disease progression modelling

9-5-22: Department of Computer Science, University of Catania. **Talk Title**: Machine Learning and Medical Imaging

12-5-21: Department of Computer Science, University of Catania. **Talk Title**: AI for medical imaging, smart sensing and disease progression modelling

27-06-20**:** Netherlands Cancer Institute Amsterdam. **Talk Title**: Deep learning for oncology, image-based disease progression modelling and smart sensing

10-05-19: UCL/ICL workshop, University College London. **Talk Title**: Deep learning for health informatics and medical interventions: Degenerative Adversarial NeuroImage Nets

09-04-19: Amsterdam University Medical Centre (AUMC), Amsterdam. **Talk Title**: Degenerative Adversarial NeuroImage Net: Simulation of the progression of neurodegenerative disease

30-01-2019: Centre for Medical Image Computing (CMIC), University College London. **Talk Title**: Adversarial training with cycle consistency for unsupervised super-resolution in endomicroscopy

16-11-2018: Linkverse, Rome. **Talk Title**: Deep learning for health informatics and medical interventions

18-07-2018: Medical Imaging Deep Learning (MIDL) conference, Amsterdam. **Talk Title**: Adversarial training with cycle consistency for unsupervised super-resolution in endomicroscopy

16-03-2018: Department of Computer Science, University of Catania. **Talk Title**: Deep Learning for Health Informatics and Medical Interventions

22-11-2017: Wellcome/EPSRC Centre for Interventional and Surgical Sciences, University College London. **Talk Title**: Effective deep learning training for single-image super-resolution in endomicroscopy exploiting video-registration-based reconstruction

14-11-2017: Institute of Child Health, Developmental Imaging & Biophysics Section, University College London. **Talk Title**: Intra-operative hyperspectral imaging for brain tumour detection and delineation

18-10-2017: Centre for Medical Image Computing (CMIC), University College London. **Talk Title**: Intra-operative hyperspectral imaging for brain tumour detection and delineation

24-06-2017: **Panel interviews** at EPSRC UK-RAS, London

10-05-2017: Body Sensor Networks (BSN), main conference, Eindhoven. **Talk Title**: A Personalized Air Quality Sensing System - A preliminary study on assessing the air quality of London Underground Stations"

09-05-2017: Body Sensor Networks (BSN), conference workshop, Eindhoven. **Talk Title**: The grand challenge from lab to real-life solutions: Automatic food recognition for dietary monitoring

07-09-2016: Young Researchers Futures Meeting 2016, Imperial College London. **Talk Title**: Hyperspectral Imaging for Brain Cancer Detection

14-06-2016: RA Symposium 2016 - Imperial College London. **Talk Title**: Semantic segmentation on embedded hyperspectral images for brain cancer detection

23-09-2015: Hamlyn Centre for Robotic Surgery, Imperial College London. **Talk Title**: Deep learning for image food classification

04-03-2015: Hamlyn Centre for Robotic Surgery, Imperial College London. **Talk Title**: Real-time food classification

23-07-2014: Hamlyn Centre for Robotic Surgery, Imperial College London. **Talk Title**: Human Activity Recognition using ActiveMiles

PUBLICATIONS – JOURNALS:
1. **Ravi, D,** Barkhof, F, Alexander, D.C., GJM Parker, A Eshaghi, "An efficient semi-supervised quality control system trained using physics-based MRI-artefact generators and adversarial training". Medical Image Analysis, 2023. **IF 13.828 - Q1**

2. **Ravi, D.,** Blumberg, S.B., Ingala, S., Barkhof, F., Alexander, D.C. and Oxtoby, N.P. "Degenerative Adversarial NeuroImage Nets for Brain Scan Simulations: Application in Ageing and Dementia". Medical Image Analysis, 2022. **IF 13.828 - Q1**

3. B. Szczotka, D. I. Shakir, **D. Ravì**, M. J. Clarkson, S. P. Pereira, T. Vercauteren, "Learning from Irregularly Sampled Data for Endomicroscopy Super-resolution: A Comparative Study of Sparse and Dense Approaches" International Journal of Computer Assisted Radiology and Surgery, 2020 **IF 3.421 - Q1**

4. K. Mengoudi, **D. Ravì**, K. X X Yong, S. Primativo, I. M Pavisic, E. Brotherhood, K. Lu, J. M Schott, S. J Crutch, D. C Alexander, "Augmenting Dementia Cognitive Assessment with Instruction-less Eye-tracking Tests" Journal of Biomedical and Health Informatics 2020 **IF 7.021 - Q1**

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