

# Niki Martinel

ASSOCIATE PROFESSOR · MACHINE LEARNING AND COMPUTER VISION

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The following CV is also available online

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## Main Research and Teaching Activities

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### Current Position and Roles

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#### CURRENT POSITION

##### University of Udine

ASSOCIATE PROFESSOR AT AVIREs/MLP LABS (UNIVERSITY OF UDINE) - MACHINE LEARNING AND COMPUTER VISION

*Udine, Italy*

*Dec 2021 - To Date*

Recent Activities:

- Proposed and implemented a novel neural pooling layer with knowledge distillation for vehicle re-identification – Paper accepted for publication at IEEE Transactions on Industrial Informatics – IF. 9.1
- Proposed and implemented a deep neural network model with attention for person re-identification – IEEE Transactions on Image Processing – IF. 9.3
- Co-Principal Investigator for the accepted ONR Grant N62909-20-1-2075 entitled “Target Re-Association for Autonomous Agents” (TRAAA)
- Responsible for the PRESNET project WPs regarding the development of video analysis/machine learning models for autonomous UAV control. Funded by the Italy/Singapore Ministry of Defense.
- Responsible for the Conuter-UAV project WPs regarding the introduction of computer vision and deep learning approaches for UAV detection. Funded by the Italy Ministry of Defense.

#### INTERNATIONAL ROLES

##### Italian IAPR chapter

DEPUTY CHIEF FOR THE NEURAL NETWORKS AND DEEP LEARNING TECHNICAL COMMITTEE

*Firenze, Italy*

*September 2017 - To Date*

Creating a network of people that will guide new and young members through the challenges and existing approaches of deep neural networks (deep learning).

##### NATO

MEMBER OF THE NATO ACTIVITY IST-169 ROBUSTNESS AND ACCOUNTABILITY IN MACHINE LEARNING SYSTEM

*Bruxelles, Belgium*

*August 2018 - To Date*

Determine the state-of-the-art in robustness and accountability for deep learning systems with complex and large models which are virtually impossible to manage by humans.

##### NATO

MEMBER OF THE NATO ACTIVITY IST-ET-113 UNSUPERVISED MACHINE LEARNING IN THE MILITARY DOMAIN

*Bruxelles, Belgium*

*December 2019 - To Date*

Define the state-of-the-art in unsupervised machine learning systems and set the stepping-stones for the future directions in the military domain.

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### Teaching and Research

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#### TEACHING AT INTERNATIONAL SCHOOLS

##### IAPR

TEACHER

*Italy*

*2016 - To Date*

Invited to offer machine learning-related classes at the International Doctorate School entitled “Scuola di Visione delle Macchine” (2016) / International Summer School on Artificial Intelligence - From Deep Learning to Data Analytics (2018, 2019).

#### TEACHING

## National and International Universities

TEACHER

*Italy/Austria*

2011 – To Date

More than 15 teaching activities on bachelor, master and doctoral computer science courses offered by the University of Udine (Italy) and the Alpen-Adria University of Klagenfurt (Austria).

## DOCTORATE SCHOOL ORGANIZER

### International Schools

LOCAL CHAIR

*Italy*

2016-To Date

Organizer of the 2016 edition of the International Doctorate School entitled “Scuola di Visione delle Macchine” promoted by the Italian IAPR Chapter and of the International Summer School on Artificial Intelligence (AI-DLDA), 2018 to 2021 editions.

## DOCTORATE THESIS REFEREE

### National Referee

UNIVERSITY OF PADOVA/UDINE

*Italy*

2018 – To Date

External/Internal member of the evaluation committee for award of International Doctor of Philosophy Degrees.

### International Referee

UNIVERSITY OF ALCALA DE HENARES

*Alcala de Henares, Spain*

2015 – To Date

International member of the evaluation committee for award of the International Doctor of Philosophy Degree in Electronics, department of Electronics, University of Alcala de Henares, Spain.

## INTERNATIONAL JOURNAL EDITOR

### Elsevier Microprocessors and Microsystems International Journal

HANDLING/ASSOCIATE EDITOR

*Elsevier*

2020

Handling/Associate editor for the International Journal on Microprocessors and Microsystem.

### IEEE/IET CAAI Transactions on Intelligence Technology

ASSOCIATE EDITOR

*IEE/IET*

2016

Associate editor for the International IEEE-IET Journal CAAI Transactions on Intelligence Technology.

## INTERNATIONAL RESEARCH

### University of California at Riverside

VISITING RESEARCHER

*Riverside, CA, USA*

2014 – 2016

Junior specialist (2012–2013) and visiting assistant project scientist (2016) working on projects funded by the Office of Naval Research (ONR) and by the National Science Foundation (NSF).

### Alpen-Adria University of Klagenfurt

VISITING PROFESSOR

*Klagenfurt, Austria*

2020

Visiting professor for guest lectures series on Artificial Vision.

### Alpen-Adria University of Klagenfurt

VISITING PROFESSOR

*Klagenfurt, Austria*

2018

Visiting professor for guest lectures series on Artificial Vision.

## RESEARCH COLLABORATIONS

### National and International Universities

RESEARCHER

*Italy/Slovenia/USA/Australia*

2012 – To Date

Collaborations with national and international universities including: University of Firenze, University of Ljubljana, University of Boston, University of California at Riverside, Queensland University of Technology, University of Adelaide, Stanford University.

## INTERNATIONAL CONFERENCE ORGANIZATION

### International Workshop on Distributed Smart Cameras (ICCV2021, ECCV2022)

GENERAL CHAIR

*Virtual*

2021-2022

General chair for the 1st International Workshop on Distributed Smart Cameras.

## International Conference on Distributed Smart Cameras

*Eindhoven, The Netherlands*

MULTIMEDIA CHAIR

2018

Multimedia chair for the 12th International Conference on Distributed Smart Cameras, held in Eindhoven, The Netherlands.

## International Conference on Distributed Smart Cameras

*Venice, Italy*

PUBLICATION CHAIR

2014

Publication chair for the 8th International Conference on Distributed Smart Cameras, held in Venice, Italy.

## IEEE/ACM/Springer

TECHNICAL PROGRAM COMMITTEE

2013 - To Date

Member of the technical program committee of various top-notch computer vision and machine learning international conferences and workshops (e.g., WACV/ECCV/ICCV/CVPR/AAAI).

## INVITED PRESENTATIONS AND SEMINARS

### International Universities

SEMINARS

2015 - To Date

Invited to present current and past research activities at different International Universities, including the University of Ljubljana (Slovenia) and the University of Massachusetts at Lowell (Massachusetts, USA).

## TECHNOLOGICAL TRANSFER

### Eye-Tech Srl

MEMBER

2016 - To Date

Member of a spin-off of the University of Udine.

## REVIEWING ACTIVITIES

### IEEE/ACM/Springer

REVIEWER

2014 - To Date

Reviewer and member of the technical program committee of top-notch international conferences.

### IEEE/ACM/Elsevier/IET/SPIE/Springer

REVIEWER

2014 - To Date

Reviewer for prestigious international computer vision and machine learning-related journals.

## COMPETITIVE RESEARCH PROJECTS

### University of Udine

*Udine, Italy*

WP/TECHNICAL RESPONSIBLE

2010 - To Date

CoPI, WP responsible and unit member for 7 international and 5 national projects.

## PUBLICATIONS

### IEEE/ACM/Elsevier/Springer

AUTHOR/CO-AUTHOR

2010 - To Date

Author or co-author of more than 20 international journal papers, 35 papers published in international conferences proceedings and 3 book chapters.

### IEEE/ACM

AWARDS

2014 - To Date

- Ranked among the **top reviewers for ECCV 2020**.
- Main author of the paper entitled "Unsupervised Hashing with Neural Trees for Image Retrieval and Person Re-Identification" by N. Martinel, G. L. Foresti and C. Micheloni, nominated for the **Best Paper Award** at the International Conference on Distributed Smart Cameras (2018)
- Main author of the paper entitled "Distributed and Unsupervised Cost-Driven Person Re-identification" by N. Martinel, G. L. Foresti and C. Micheloni, receiving the **Best Industry Related Paper Award** at the International Conference on Pattern Recognition (2016)
- Main author of the paper entitled "Sparse Matching of Random Patches for Person Re-Identification" by N. Martinel and C. Micheloni, receiving the **Best Paper Award** at the International Conference on Distributed Smart Cameras (2014)

## RESEARCH QUALITY

## Bibliometric Indicators

AUTHOR

2012 – To Date

- **Scopus:** h – index = 18 – citations = 896
- **Google Scholar:** h – index = 23 – i10 – index = 38 – citations = 1820

Dr. Martinel has received the “Abilitazione Scientifica Nazionale” for the Full Professor position for the scientific sector 01/B1.

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# Detailed List

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## Education

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### University of Udine

PH.D. IN INDUSTRIAL AND INFORMATION ENGINEERING

*Udine, Italy*

*May 2014 - May 2017*

- Thesis entitled “Biologically-Inspired Hierarchical Learning Architectures for Image Classification”.  
Supervisor: Prof. Gian Luca Foresti  
Università degli Studi di Udine, May 22, 2017, pp. 155

### University of Udine

PH.D. IN MULTIMEDIA COMMUNICATION

*Udine, Italy*

*January 2011 - April 2014*

- Thesis entitled “A Distributed Video Surveillance System to Track Persons in Camera Networks”.  
Supervisor: Dr. Christian Micheloni  
Università degli Studi di Udine, April 9, 2014, pp. 163.

### University of Udine

MASTER DEGREE IN MULTIMEDIA COMMUNICATION

*Udine, Italy*

*October 2008 - November 2010*

- Thesis entitled “Design and Development of a Dynamic User Interface for Video Surveillance Systems”.  
Supervisors: Dr. Christian Micheloni and Prof. Gian Luca Foresti  
Università degli Studi di Udine, November 2010, pp. 234.
- Mark: 110/110 *cum laude*.

### University of Udine

BACHELOR DEGREE IN MULTIMEDIA SCIENCE AND TECHNOLOGIES

*Udine, Italy*

*September 2005 - September 2008*

- Thesis entitled “A Portal Designed for Querying XML Documents”.  
Supervisors: Dr. Demis Ballis and Dr. Michele Baggi  
Università degli Studi di Udine, September 2008, pp. 200.
- Mark: 104/110.

## International Schools

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### University of Cambridge, UK / University of Catania, Italy

INTERNATIONAL COMPUTER VISION SUMMER SCHOOL ICVSS 2011 - REGISTRATION, RECOGNITION AND RECONSTRUCTION  
IN IMAGES AND VIDEO

*Scicli, Italy*

*July 2011*

### University of Modena and Reggio Emilia / IAPR

INTERNATIONAL SHORT SPRING SCHOOL ON SURVEILLANCE - S4

*Modena, Italy*

*May 2011*

## International Experiences

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### University of California, Riverside, CA

ASSISTANT PROJECT SCIENTIST - SUPERVISOR: PROF. AMIT K. ROY-CHOWDHURY

*Riverside, CA, USA*

*January 2016 - March 2016*

Leading a project module on person re-identification

- Implemented a human-in-the-loop method that yields incremental learning. This is used to perform temporal model (metric learning) adaptation
- Other investigated topics: metric learning; deep learning; convex optimization; active learning; incremental learning

### University of California, Riverside, CA

JUNIOR SPECIALIST - SUPERVISOR: PROF. AMIT K. ROY-CHOWDHURY

*Riverside, CA, USA*

*September 2012 - April 2013*

Jointly working on a project module on person re-identification

- Implemented an approach that tackles the re-identification objective by performing classification of pairwise camera-dependent visual feature transformations
- Other investigated topics: feature transformation; unsupervised manifold learning; machine learning; deep learning; convex/distributed optimization

# Teaching Activities

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## University of Udine

SMART IOT DEVICES

Teacher for the master course in Multimedia and Information Technology

*Udine, Italy*

2022 - 2023

## University of Udine

MULTIMEDIA DATA MANAGEMENT LAB

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2022 - 2023

## University of Udine

COMPUTER SCIENCE FOR MULTIMEDIA

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2022 - 2023

## Alpen-Adria University at Klagenfurt

ARTIFICIAL VISION

Teacher for the master/doctorate short course offered by the Institute of Networked and Embedded Systems

*Klagenfurt, Austria*

May 2022

## University of Udine

SMART IOT DEVICES

Teacher for the master course in Multimedia and Information Technology

*Udine, Italy*

2021 - 2022

## University of Udine

MULTIMEDIA DATA MANAGEMENT LAB

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2021 - 2022

## University of Udine

SMART IOT DEVICES

Teacher for the master course in Multimedia and Information Technology

*Udine, Italy*

2020 - 2021

## University of Udine

MULTIMEDIA DATA MANAGEMENT LAB

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2020 - 2021

## International Summer School on Artificial Intelligence: From Deep Learning to Data Analytics (AI-DLDA)

GOING BEYOND CONVOLUTIONAL NEURAL NETWORKS FOR COMPUTER VISION

Invited teacher for the International Doctorate School

*Udine, Italy*

July 2020

## Alpen-Adria University at Klagenfurt

ARTIFICIAL VISION

Teacher for the master/doctorate short course offered by the Institute of Networked and Embedded Systems

*Klagenfurt, Austria*

May 2020

## University of Udine

SMART NETWORKED DEVICES

Teacher for the master course in Multimedia and Information Technology

*Udine, Italy*

2019 - 2020

## University of Udine

MULTIMEDIA DATA MANAGEMENT LAB

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2019 - 2020

## University of Udine

MULTIMEDIA DATA MANAGEMENT LAB

Teacher for the bachelor course in Multimedia and Science Technologies

*Udine, Italy*

2018 - 2019

## International Summer School on Artificial Intelligence: From Deep Learning to Data Analytics (AI-DLDA)

TOWARDS HUMAN-LEVEL IMAGE UNDERSTANDING WITH DEEP LEARNING

Invited teacher for the International Doctorate School

*Udine, Italy*

June 2019

## Alpen-Adria University at Klagenfurt

ARTIFICIAL VISION

Teacher for the master/doctorate course offered by the Institute of Networked and Embedded Systems

*Klagenfurt, Austria*

June 2018

## **International Summer School on Artificial Intelligence: From Deep Learning to Data Analytics (AI-DLDA)**

TOWARDS HUMAN-LEVEL IMAGE UNDERSTANDING WITH DEEP LEARNING

Invited teacher for the International Doctorate School

*Udine, Italy*

*July 2018*

### **University of Udine**

MACHINE LEARNING

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2017 - 2018*

### **University of Udine**

SMART VISION AND SENSOR NETWORKS

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2017 - 2018*

### **Istituto Tecnico Superiore ITS - Kennedy**

INTRODUCTION TO PROBABILITY

Teacher

*Pordenone, Italy*

*2017*

### **University of Udine**

MACHINE LEARNING

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2016 - 2017*

### **University of Udine**

3D COMPUTER GRAPHICS

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2016 - 2017*

### **University of Udine**

SMART VISION AND SENSOR NETWORKS

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2016 - 2017*

### **International Machine Vision Summer School (VISMAC)**

MACHINE/DEEP LEARNING INTRODUCTION

Invited teacher for the international doctorate school

*Pordenone/Grado, Italy*

*June 2016*

### **University of Udine**

MACHINE LEARNING

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2015 - 2016*

### **University of Udine**

3D COMPUTER GRAPHICS

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2015 - 2016*

### **University of Udine**

SMART VISION AND SENSOR NETWORKS

Commissioned teacher for the master course in Computer Science – International Degree

*Udine, Italy*

*2015 - 2016*

### **University of Udine**

3D COMPUTER GRAPHICS

Teaching assistant for the master course in Multimedia Communication and Information Technologies

*Udine, Italy*

*2013 - 2014*

### **University of Udine**

VIDEO PROCESSING AND TRANSMISSION

Teaching assistant for the master course in Multimedia Communication and Information Technologies

*Udine, Italy*

*2013 - 2014*

### **University of Udine**

SECURITY IN MULTIMEDIA APPLICATIONS

Teaching assistant for the bachelor course in Multimedia Science and Technology

*Udine, Italy*

*2013 - 2014*

### **University of Udine**

VIDEO PROCESSING AND TRANSMISSION

Teaching assistant for the master course in Multimedia Communication and Information Technologies

*Udine, Italy*

*2011 - 2012*

## **Working Experience**

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## University of Udine

ASSISTANT PROFESSOR (TENURE TRACK)

Udine, Italy

Dec 2018 - Dec 2021

## University of Udine

POST-DOC FELLOW - SUPERVISOR: PROF. GIAN LUCA FORESTI

Udine, Italy

May 2016 - Jan 2018

Leading research projects on person re-identification and pattern recognition

- Proposed an aerial video surveillance system that exploits small-scale UAVs to perform environmental monitoring
- Designed a deep learning architecture for food recognition that exploits the vertical layer structure of food dishes
- Proposed a re-identification solution that transfer the knowledge available in the single-person re-identification domain to the group re-identification one

## Eye-Tech S.r.l.

ADVISORY BOARD MEMBER - MACHINE LEARNING EXPERT

Pordenone, Italy

December 2015 - May 2017

Leading R&D projects on Machine Learning and Computer Vision

- Design and implementation of a prototype software for the automatic evaluation of goalkeepers
- Design and implementation of an automatic food understanding approach for embedded platforms
- Re-designed the Eye-D software to control the access of sensible areas through biometric identification
- Supervised the design and engineering of the Smart Person Identification software

## University of Udine

POST-DOC FELLOW - SUPERVISOR: PROF. GIAN LUCA FORESTI

Udine, Italy

June 2015 - May 2016

Leading research projects on person re-identification and pattern recognition

- Proposed a real-time incremental and geo-referenced solution to build robust mosaics by means of small-scale UAVs
- Proposed a stochastic optimization-based method to temporally adapt a metric learning model with human in the loop
- Designed a neural tree-based solution that borrows from neural networks and extreme learning machines to self-discover the optimal architecture
- Implemented a person re-identification framework that optimizes the network resources and largely improves the performances of existing solutions

## University of Udine

POST-DOC FELLOW - SUPERVISOR: PROF. GIAN LUCA FORESTI

Udine, Italy

February 2014 - May 2015

Leading research projects on person re-identification

- Designed a re-ranking solution that discovers the visual similarities shared between similar persons and removes them to focus on the relevant re-identification details
- Designed a re-identification framework to fuse multiple experts re-identification decisions through a probabilistic scheme
- Proposed a framework that exploits visual saliency and learns multiple metrics between different image features

## University of Udine

COMPUTER VISION EXPERT - SUPERVISOR: PROF. GIAN LUCA FORESTI

Udine, Italy

October 2013 - March 2014

Unit Leader for the development of a mosaicking software for aerial images acquired by low altitude Unmanned Aerial Vehicles (UAVs). National Project ADVISOR III.

- Supervised the software engineering
- Designed the incremental stitching computer vision solution that exploits GPS-coordinates to perform real time operations

## InfoFactory S.r.l.

COMPUTER SYSTEMS ANALYST, DESIGNER AND DEVELOPER

Udine, Italy

June 2010 - December 2011

Design of Graphical User Interface for the SRSNet Project funded by the European Commission

- Designed the User Interface through Human-Computer Interaction evaluation procedures
- Development of the computer vision solution to track the targets across different overlapping cameras

## MEDIASTUDIO S.r.l.

COMPUTER SYSTEMS ANALYST, DESIGNER AND DEVELOPER

Pordenone, Italy

April 2009 - December 2010

Design of Graphical User Interface for 3D Software | Design and development of mobile applications

- Development of mobile applications for the design of customized kitchens
- Re-design and re-engineering of the graphical user interface of the software product used to design customized kitchens

## MEDIASTUDIO S.r.l.

COMPUTER SYSTEMS ANALYST, DESIGNER AND DEVELOPER

Pordenone, Italy

March 2008 - March 2009

Design of Graphical User Interface for 3D Software

- Re-design and re-engineering of the graphical user interface of the software product used to create/draw kitchens objects (i.e., a Computer Aided Design software)

## FotocolorMartinelli S.n.c.

GRAPHIC DESIGNER

Maniago, PN, Italy

June 2008 - September 2008

Photo retouching | Dealer



## National and International Collaborations

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**University of Adelaide**

PROF. GUSTAVO CARNIERO

Collaborations with Prof. Gustavo Carniero on reinforcement learning for visual tracking

*Adelaide, Australia**2018 - To Date***Queensland University of Technology**

DR. DAVIDE FONTANAROSA

Collaborations with Dr. Davide Fontanarosa on visual tracking in ultrasound images and robotics for surgery applications

*Brisbane, Australia**2018 - To Date***University of Firenze**

PROF. ALBERTO DEL BIMBO

Collaborations with Prof. Alberto del Bimbo on re-identification solutions proposing single-to-group transfer learning approaches

*Firenze, Italy**2016 - To Date***University of Pavia**

DR. GIUSEPPE LISANTI

Collaborations with Dr. Giuseppe Lisanti on re-identification solutions proposing single-to-group transfer learning approaches

*Firenze, Italy**2016 - To Date***University of Ljubljana**

PROF. DANJIEL SKOCAJ

Collaborations with Prof. Danjuel Skocaj on incremental learning solutions

*Ljubljana, Slovenia**2015 - To Date***University of Alcalá de Henares**

PROF. ALFREDO GARDEL VICENTE

Collaborations with Prof. Alfredo Gardel Vicente investigating re-ranking schemes for person re-identification

*Alcala de Henares, Spain**2014 - To Date***Indian Institute of Technology, Kharagpur**

DR. ABIR DAS

Collaborations with Dr. Abir Das on person re-identification solutions

*Boston, CA, USA**2012 - To Date***University of California at Riverside**

PROF. AMIT K. ROY-CHOWDHURY

Collaborations with Prof. Amit K. Roy-Chowdhury investigating person re-identification solutions grounded on human-in-the-loop and feature transformation techniques. Other investigated topics include: machine learning; deep learning; convex optimization; active learning.

*Riverside, CA, USA**2012 - To Date*

## International Research Projects

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**Office of Naval Research**

CO-PRINCIPAL INVESTIGATOR (COPI) FOR THE RESEARCH PROJECT "TARGET RE-ASSOCIATION FOR AUTONOMOUS AGENTS" (TRAAA)

*USA**2020 - To Date***European Community – Marie Curie European Training Network project**

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: ADVANCED HARDWARE/SOFTWARE COMPONENTS FOR INTEGRATED/EMBEDDED VISION SYSTEMS (ACHIEVE)

*EU**2017 - To Date***Italian/Singapore Ministry of Defense**

MEMBER/WP RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: PRESCRIPTIVE SITUATIONAL AWARENESS FOR COOPERATIVE AUTO-ORGANIZING AERIAL SENSOR NETWORKS (PRESNET)

*Rome, Italy / Singapore, Singapore**2016 - To Date***National Science Foundation**

MEMBER OF THE RESEARCH TEAM WORKING ON THE NATIONAL SCIENCE FOUNDATION PROJECT ENTITLED "MULTIROBOT-HUMAN COORDINATION FOR VISUAL SCENE UNDERSTANDING" – IIS-1316934

*Riverside, CA, USA**2016*

## European Community – Interreg IV research project

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: SMART RESOURCE-AWARE MULTI-SENSOR NETWORK (SRSNET)

EU

2011 - 2012

## European Community – Transnational Cooperation Programme EU-SEE/A/426/1

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: INTER-REGIONAL COOPERATION FOR VALORISATION OF R&D RESULTS (INTERVALUE)

EU

2009 - 2012

## European Defense Agency – Defence R&T Joint Investment Programme on Force Protection - Project A-0444-RT-GC

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: DISTRIBUTED AND ADAPTIVE MULTISENSOR FUSION ENGINE (DAFNE)

EU

2009 - 2011

## European Defense Agency – Defense R&T Joint Investment Program on Force Protection – Project A-0380-RT-GC

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: MULTI-SENSOR ANTISNIPER SYSTEM (MUSAS)

EU

2007 - 2010

## National Research Projects

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### Ergolines Lab s.r.l.

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE FOR THE PROJECT ENTITLED:  
“SVILUPPO, IMPLEMENTAZIONE E VALIDAZIONE DI ALGORITMI DI INTELLIGENZA ARTIFICIALE APPLICATI ALL’ANALISI DEI DATI ACQUISITI DA SENSORISTICA CON APPLICAZIONE IN LINGOTTIERA PER MACCHINA DI COLATA CONTINUA ACCIAIO”

Trieste, Italy

2020 - 2022

### SMACT Scpa

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE FOR THE PROJECT ENTITLED:  
“PIATTAFORMA IOT PER CONTROLLO ED ANALISI QUALITÀ DATA-DRIVEN IN AMBITO METALLURGICO”

Padova, Italy

2020 - 2021

### Ergolines Lab s.r.l.

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE FOR THE PROJECT ENTITLED:  
“RICERCA E SVILUPPO DI ALGORITMI DI MACHINE LEARNING PER UN LORO UTILIZZO IN SISTEMI TOMOGRAFICI”

Trieste, Italy

2020

### Italian Ministry of Defense

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: A PROACTIVE COUNTER-UAV SYSTEM TO PROTECT ARMY TANKS AND PATROLS IN URBAN AREAS (PROACTIVE COUNTER-UAV)

Rome, Italy

2019 - To Date

### Ergolines Lab s.r.l.

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE FOR THE PROJECT ENTITLED:  
“STUDI ESPLORATIVI DI SVILUPPO DI ALGORITMI DI MACHINE LEARNING PER UN LORO UTILIZZO IN SISTEMI TOMOGRAFICI”

Trieste, Italy

2019 - 2020

### Friuli Venezia-Giulia Region / beanTech Srl

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: SMART MACHINE BOX (SMB)

Trieste, Italy

2018 - To Date

### Friuli Venezia-Giulia Region / Wartsila Spa

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: ADVANCED TRACKING OF TECHNICAL PERSONNEL THROUGH AUGMENTED REALITY

Trieste, Italy

2018 - To Date

### Friuli Venezia-Giulia Region / Rosa Plast Srl

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: COLLABORATIVE DESIGN WITH MIXED REALITY

Trieste, Italy

2018 - To Date

## **Friuli Venezia-Giulia Region / Nuova Contec Srl**

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: INTEGRATED VIDEO ANALYTICS SYSTEM FOR THE INSPECTION OF SEWER PIPES (SVIPCF)

*Trieste, Italy*

2016 - 2017

## **Italian Ministry of Defense**

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: AUGMENTED REALITY FOR MOBILE APPLICATIONS: NAVIGATION SUPPORT FOR MILITARY PATROLS IN HIGH RISK AREAS, ADVANCED VISUALIZATION OF INTEREST POINTS IN TOURISTIC APPLICATIONS AND INTELLIGENT RECOGNITION OF EXPLOSIVE REMNANT OF WAR (RA2M)

*Rome, Italy*

2015 - To Date

## **Italian Ministry of Defense/Friuli Venezia-Giulia Region**

MEMBER/TECHICAL RESPONSIBLE OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: PROACTIVE ARTIFICIAL VISION FOR ADVANCED UAV SYSTEMS FOR PROTECTION OF MILITARY UNITS, TERRITORIAL CONTROL AND ENVIRONMENTAL PREVENTION (SUPREME)

*Rome/Trieste, Italy*

2015 - To Date

## **Italian Ministry of Defense**

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: SYSTEM DEPLOYMENT AND AUTOMATIC NETWORK RECONFIGURATION OF MOBILE SENSORS ON UAVS FOR THE PROTECTION OF CONVOYS, PATROLS AND MILITARY INSTALLATIONS OF (ADVISOR III)

*Rome, Italy*

2011 - 2013

## **Italian Ministry of Defense**

MEMBER OF THE RESEARCH UNIT OF THE UNIVERSITY OF UDINE: AN ADVANCED MODEL FOR AUTONOMOUS RECONFIGURATION OF A NETWORK OF ACTIVE SENSORS FOR PROTECTION OF MILITARY CAMPS IN ABROAD MISSIONS (ADVISOR II)

*Rome, Italy*

2008 - 2011

## **Industrial Projects**

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### **Sim2 Multimedia S.p.a.**

PROJECT MANGER: DESIGN OF GRAPHICAL USER INTERFACE DEVELOPMENT OF AN ADOBE FLASH<sup>®</sup>-BASED DYNAMIC SYSTEM DIGITAL NETWORK MANAGEMENT  
Interfaces and Media Content for a Dynamic Digital Signage Network

*Pordenone, Italy*

2009 - 2010

## **Journal Editor**

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### **Elsevier Microprocessors and Microsystems International Journal**

HANDLING/ASSOCIATE EDITOR

Handling/Associate editor for the International Journal on Microprocessors and Microsystem.

*Elsevier*

2020

### **IEEE/IET CAAI Transactions on Intelligence Technology**

ASSOCIATE EDITOR

Associate editor for the International IEEE-IET Journal CAAI Transactions on Intelligence Technology.

*IEE/IET*

2016

## **Reviewing Activities**

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### **IEEE**

- JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING
- TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE
- TRANSACTIONS ON IMAGE PROCESSING
- TRANSACTIONS ON CYBERNETICS
- TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY
- TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY
- TRANSACTIONS ON MULTIMEDIA
- SIGNAL PROCESSING LETTERS
- ROBOTICS AND AUTOMATION LETTERS
- IEEE ACCESS

## Elsevier

- IMAGE AND VISION COMPUTING
- PATTERN RECOGNITION
- COMPUTER VISION AND IMAGE UNDERSTANDING
- PATTERN RECOGNITION LETTERS
- SIGNAL PROCESSING: IMAGE COMMUNICATION
- JOURNAL OF VISUAL COMMUNICATION AND IMAGE REPRESENTATION REGISTRATION
- INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS
- KNOWLEDGE-BASED SYSTEMS
- 3D RESEARCH

## ACM

- TRANSACTION ON SENSOR NETWORKS

## Springer

- THE VISUAL COMPUTER

## IET

- COMPUTER VISION
- IMAGE PROCESSING

## SPIE

- JOURNAL OF ELECTRONICAL IMAGING
- OPTICAL ENGINEERING

## International Conference/Workshop Organization

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### GENERAL CHAIR

#### International Wokrhso on Distributed Smart Cameras (IWDSC)

*Virtual*  
September 2022

#### International Wokrhso on Distributed Smart Cameras (IWDSC)

*Virtual*  
October 2021

### SPECIAL SESSION CHAIR

#### International Conference on Image Analysis and Processign (ICIAP)

*Lecce, Italy*  
May 2022

### MULTIMEDIA CHAIR

#### ACM International Conference on Distributed Smart Cameras (ICDSC)

*Eindhoven, The Netherlands*  
September 2018

#### ACM International Conference on Distributed Smart Cameras (ICDSC)

*Stanford, CA, USA*  
September 2017

### PUBLICATION CHAIR

#### IEEE/ACM International Conference on Distributed Smart Cameras (ICDSC)

*Venice, Italy*  
November 2014

## LOCAL CHAIR

### **International Machine Vision Summer School (VISMAC)**

*Pordenone/Grado, Italy*

*June 2016*

### **International Conference for the Italian Chapter on Pattern Recognition (GIRPR)**

*Grado (UD), Italy*

*June 2016*

## AREA CHAIR

### **International Conference on Pattern Recognition (ICPR)**

*Montreal, Canada*

*August 2022*

### **International Conference on Pattern Recognition (ICPR)**

*Milano, Italy*

*January 2021*

## TECHNICAL PROGRAM COMMITTEE

### **IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)**

*New Orleans, Louisiana, USA*

*June 2022*

### **IEEE International Conference on Computer Vision (ICCV)**

*Virtual*

*October 2021*

### **IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)**

*Virtual*

*June 2021*

### **AAAI Conference on Artificial Intelligence (AAAI)**

*Virtual*

*February 2021*

### **IEEE International Conference on Winter Applications of Computer Vision (WACV)**

*Virtual*

*January 2021*

### **Asian Conference on Computer Vision (ACCV)**

*Kyoto, Japan*

*November-December 2020*

### **European Conference on Computer Vision (ECCV)**

*Edinburgh, Scotland*

*August 2020*

### **IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)**

*Seattle WA, USA*

*June 2020*

### **AAAI Conference on Artificial Intelligence (AAAI)**

*New York NY, USA*

*February 2020*

### **IEEE International Conference on Robotics and Automation (ICRA)**

*Paris, France*

*May-June 2020*

### **IEEE International Conference on Computer Vision (ICCV)**

*Seoul, South Korea*

*October-November 2019*

<b>IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)</b>	<i>Long Beach CA, USA</i> June 2019
<b>IEEE International Conference on Distributed Smart Cameras (ICDSC)</b>	<i>Trento, Italy</i> September 2019
<b>IEEE International Conference on Robotics and Automation (ICRA)</b>	<i>Montreal, Canada</i> May 2019
<b>IEEE International Conference on Winter Applications of Computer Vision (WACV)</b>	<i>Waikoloa Village, HI, USA</i> January 2019
<b>IEEE International Conference on Distributed Smart Cameras (ICDSC)</b>	<i>Eindhoven, The Netherlands</i> September 2018
<b>International Conference on Pattern Recognition (ICPR)</b>	<i>Beijing, China</i> August 2018
<b>IEEE International Conference on Winter Applications of Computer Vision (WACV)</b>	<i>Lake Tahoe, CA, USA</i> March 2018
<b>International Workshop on on Cross-domain Human Identification (CHI)</b>	<i>Venice, Italy</i> October 2017
<b>International Workshop on Multimedia Assisted Dietary Management (MADIMA)</b>	<i>Catania, Italy</i> December 2017
<b>IEEE International Conference on Image Processing Theory, Tools and Applications (IPTA)</b>	<i>Montreal, Canada</i> December 2017
<b>IEEE International Conference on Computer Vision (ICCV)</b>	<i>Venice, Italy</i> October 2017
<b>International Workshop on Assistive Computer Vision and Robotics (ACVR)</b>	<i>Venice, Italy</i> October 2017
<b>IEEE International Conference on Distributed Smart Cameras (ICDSC)</b>	<i>Stanford, CA, USA</i> September 2017
<b>International Symposium on Image and Signal Processing and Analysis (ISPA)</b>	<i>Ljubljana, Slovenia</i> September 2017
<b>IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS)</b>	<i>Lecce, Italy</i> September 2017
<b>IEEE International Conference on Winter Applications of Computer Vision (WACV)</b>	<i>Santa Rosa, CA, USA</i> March 2017

## International Conference on Pattern Recognition (ICPR)

Cancun, Mexico

December 2016

## IEEE International Workshop on Assisted Computer Vision for Robotics (ACVR) - in Conjunction with ECCV

Amsterdam, The Netherlands

October 2016

## ACM International Conference on Distributed Smart Cameras (ICDSC)

Paris, France

September 2016

## ACM International Conference on Distributed Smart Cameras (ICDSC)

Seville, Spain

September 2015

## IEEE/ACM International Conference on Distributed Smart Cameras (ICDSC)

Venice, Italy

November 2014

## Skills

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### Machine Learning

- NEURAL NETWORKS/DEEP LEARNING, METRIC LEARNING, NEURAL TREES, EXTREME LEARNING MACHINES, SUPPORT VECTOR MACHINES, DICTIONARY LEARNING, INCREMENTAL LEARNING, DIMENSIONALITY REDUCTION, OPTIMIZATION
- ENVIRONMENTS/TOOLS: PYTORCH, TORCH, TENSORFLOW, KERAS, PYTHON, C/C++, ANACONDA, SPYDER, PYCHARM, ZEROBRANE STUDIO, MATLAB

### Computer Vision

- VISUAL UNDERSTANDING/RECOGNITION/DETECTION/TRACKING, FEATURE LEARNING, FEATURE EXTRACTION, FEATURE MATCHING, TEMPORAL ADAPTATIONS
- ENVIRONMENTS/TOOLS: PYTORCH, PYTHON, C#, C/C++, SPYDER, PYCHARM, MATLAB, VISUAL STUDIO

### Unmanned vehicles

- UGV, UAV, AUTONOMOUS NAVIGATION, VISUAL ANALYTICS
- ENVIRONMENTS/TOOLS: ROS, PYTHON, C#, C/C++, SPYDER, PYCHARM, VISUAL STUDIO, ARDUINO, RASPBERRYPI

### Programming

- LANGUAGES: PYTHON, C/C++, C#, OBJECTIVE-C, LUA, MATLAB, SQL
- ENVIRONMENTS/TOOLS: ANACONDA, SPYDER, PYCHARM, VISUAL STUDIO, XCODE, ZEROBRANE STUDIO, SQL SERVER, MYSQL

### Web

HTML5, AJAX, PHP, JAVASCRIPT, CSS, SQL

### Languages

- ENGLISH: HIGHLY PROFICIENT IN SPOKEN AND WRITTEN
- ITALIAN: NATIVE

## Scientific Associations / International Organizations

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### NATO

MEMBER OF THE NATO ACTIVITY IST-169 ROBUSTNESS AND ACCOUNTABILITY IN MACHINE LEARNING SYSTEM

Bruxelles, Belgium

August 2018 - To Date

### NATO

MEMBER OF THE NATO ACTIVITY IST-ET-113 UNSUPERVISED MACHINE LEARNING IN THE MILITARY DOMAIN

Bruxelles, Belgium

December 2019 - To Date

## IAPR

DEPUTY CHIEF FOR THE NEURAL NETWORKS AND DEEP LEARNING TECHNICAL COMMITTEE – INTERNATIONAL ASSOCIATION FOR PATTERN RECOGNITION, ITALIAN CHAPTER

2017 - To Date

## IEEE

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS MEMBER

2011 - To Date

## IAPR

MEMBER OF THE GRUPPO ITALIANO RICERCATORI IN PATTERN RECOGNITION (GIRPR) - AFFILIATED WITH INTERNATIONAL ASSOCIATION OF PATTERN RECOGNITION

2011 - To Date

## Awards and Grants

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### Office of Naval Research (ONR)

RESEARCH GRANT

Grant for the project entitled “Target Re-Association for Autonomous Agents” (TRAAA)

Washington, D.C., USA

August 2020

### European Conference on Computer Vision

OUTSTANDING REVIEWER

Award received for having provided more than 7 excellent reviews

Virtual

September 2020

### Office of Naval Research (ONR)

VISITING FELLOWSHIP

Grant for a Visiting Scientist Program

Washington, D.C., USA

February 2019

### International Conference on Distributed Smart Cameras

BEST PAPER AWARD NOMINATION

Nomination received for the work entitled “Unsupervised Hashing with Neural Trees for Image Retrieval and Person Re-Identification” by N. Martinel, G. L. Foresti and C. Micheloni

Eindhoven, The Netherlands

September 2018

### NVIDIA Corporation

RESEARCH DONATION

Donation of an NVIDIA GPU for a research project on Unsupervised Learning with Neural Trees

Santa Clara, CA, USA

June 2018

### International Conference on Pattern Recognition

BEST INDUSTRY RELATED PAPER AWARD (BIRPA)

Award received for the work entitled “Distributed and Unsupervised Cost-Driven Person Re-identification” by N. Martinel, G. L. Foresti and C. Micheloni

Cancun, Mexico

December 2016

### International Conference on Pattern Recognition

BEST STUDENT PAPER AWARD CANDIDATE

“Distributed and Unsupervised Cost-Driven Person Re-identification” by N. Martinel, G. L. Foresti and C. Micheloni

Cancun, Mexico

December 2016

### NVIDIA Corporation

RESEARCH DONATION

Donation of an NVIDIA GPU for a research project on Neural Trees, Convolutional Neural Networks and Extreme Learning Machines

Santa Clara, CA, USA

May 2015

### International Conference on Distributed Smart Cameras

BEST PAPER AWARD

Award received for the work entitled “Sparse Matching of Random Patches for Person Re-Identification” by N. Martinel and C. Micheloni

Venice, Italy

September 2014

## Invited Seminars and Talks

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### Deep Learning Meetup

DEEP MACHINE VISION

Ljubljana, Slovenia

April 2019

### Deep Learning Meetup

NUTS AND BOLTS OF MOBILE FOOD UNDERSTANDING

Ljubljana, Slovenia

April 2019



## Office of Naval Research/National Research Laboratory

A JOURNEY INTO PERSON RE-IDENTIFICATION

Washington, D.C., USA

February 2019

## University of Milano-Bicocca

BIOLOGICALLY-INSPIRED HIERARCHICAL LEARNING ARCHITECTURES FOR FOOD UNDERSTANDING

Milano, Italy

February 2018

## University of Milano-Bicocca

FILL THE GAP FOR NON-CONTINUOUS LONG-TERM TRACKING

Milano, Italy

February 2018

## University of Udine

DEEP LEARNING: STATE-OF-THE-ART AND PERSPECTIVES

Udine, Italy

September 2017

## University of Massachusetts at Lowell

FILL THE GAP FOR NON-CONTINUOUS LONG-TERM TRACKING

Lowell, MA, USA

April 2016

## University of Ljubljana

ADVANCES IN PERSON RE-IDENTIFICATION

Ljubljana, Slovenia

September 2015

## Publications

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### INTERNATIONAL JOURNALS

#### ***Consistent attentive dual branch network for person re-identification***

MUNIR, ASAD AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN

17 (81) 2022

Multimedia Tools and Applications

#### ***Weakly-Supervised Domain Adaptation of Deep Regression Trackers via Reinforced Knowledge Distillation***

DUNNHOFER, MATTEO AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN

2021

IEEE Robotics and Automation Letters

#### ***Lord of the Rings: Hanoi Pooling and Self-Knowledge Distillation for Fast and Accurate Vehicle Re-Identification***

MARTINEL, NIKI AND DUNNHOFER, MATTEO AND PUCCI, RITA AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN

AUGUST 2021

IEEE Transactions on Industrial Informatics

#### ***An Intelligent Auto-Organizing Aerial Robotic Sensor Network System for Urban Surveillance***

LEONG, WAI LUN AND MARTINEL, NIKI AND HUANG, SUNAN AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND

2 (102) 2021

TEO, RODNEY SWEE HUAT

Journal of Intelligent and Robotic Systems

#### ***Deep interactive encoding with capsule networks for image classification***

PUCCI, RITA AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND MARTINEL, NIKI

43-44 (79) 2020

Multimedia Tools and Applications

#### ***Siam-U-Net: encoder-decoder siamese network for knee cartilage tracking in ultrasound images***

DUNNHOFER, MATTEO AND ANTICO, MARIA AND SASAZAWA, FUMIO AND TAKEDA, YU AND CAMPS, SASKIA AND MARTINEL,

(60) 2020

NIKI AND MICHELONI, CHRISTIAN AND CARNEIRO, GUSTAVO AND FONTANAROSA, DAVIDE

Medical Image Analysis

#### ***A UAV Video Dataset for Mosaicking and Change Detection From Low-Altitude Flights***

AVOLA, DANILO AND CINQUE, LUIGI AND FORESTI, GIAN LUCA AND MARTINEL, NIKI AND PANNONE, DANIELE AND

6 (50) 2020

PICIARELLI, CLAUDIO

IEEE Transactions on Systems, Man, and Cybernetics: Systems

- Deep Pyramidal Pooling With Attention for Person Re-Identification**  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN (29) 2020  
IEEE Transactions on Image Processing
- From person to group re-identification via unsupervised transfer of sparse features**  
LISANTI, GIUSEPPE AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND DEL BIMBO, ALBERTO AND LUCA FORESTI, GIAN (83-84) 2019  
Image and Vision Computing
- Distributed person re-identification through network-wise rank fusion consensus**  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN (124) 2019  
Pattern Recognition Letters
- Coverage Control of Multiple Unmanned Aerial Vehicles: A Short Review**  
HUANG, SUNAN AND TEO, RODNEY AND LEONG, WILLIAM AND MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN 2 (6) 2018  
Unmanned Systems
- Accelerated low-rank sparse metric learning for person re-identification**  
MARTINEL, NIKI (112) 2018  
Pattern Recognition Letters
- An Ensemble Feature Method for Food Classification**  
MARTINEL, NIKI AND PICIARELLI, CLAUDIO AND MICHELONI, CHRISTIAN 1 (26) 2017  
Machine Graphics and Vision
- Discriminant Context Information Analysis for Post-Ranking Person Re-Identification**  
GARCIA, JORGE AND MARTINEL, NIKI AND GARDEL, ALFREDO AND BRAVO, IGNACIO AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN 4 (26) 2017  
IEEE Transactions on Image Processing
- Person Reidentification in a Distributed Camera Network Framework**  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN 11 (47) 2017  
IEEE Transactions on Cybernetics
- A supervised extreme learning committee for food recognition**  
MARTINEL, NIKI AND PICIARELLI, CLAUDIO AND MICHELONI, CHRISTIAN (148) 2016  
Computer Vision and Image Understanding
- Modeling feature distances by orientation driven classifiers for person re-identification**  
GARCÍA, JORGE AND MARTINEL, NIKI AND GARDEL, ALFREDO AND BRAVO, IGNACIO AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN (38) 2016  
Journal of Visual Communication and Image Representation
- A Pool of Multiple Person Re-Identification Experts**  
MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA (71) 2016  
Pattern Recognition Letters
- On a Distributed Video Surveillance System to Track Persons in Camera Networks**  
MARTINEL, NIKI 3 (14) 2015  
ELCVIA Electronic Letters on Computer Vision and Image Analysis
- Kernelized Saliency-Based Person Re-Identification Through Multiple Metric Learning**  
MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA 12 (24) 2015  
IEEE Transactions on Image Processing
- The Evolution of Neural Learning Systems: A Novel Architecture Combining the Strengths of NTs, CNNs, and ELMs**  
MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA 3 (1) 2015  
IEEE Systems, Man, and Cybernetics Magazine
- Classification of Local Eigen-Dissimilarities for Person Re-Identification**  
MARTINEL, NIKI AND MICHELONI, CHRISTIAN 4 (22) 2015  
IEEE Signal Processing Letters

### **Re-Identification in the Function Space of Feature Warps**

MARTINEL, NIKI AND DAS, ABIR AND MICHELONI, CHRISTIAN AND ROY-CHOWDHURY, AMIT K.  
IEEE Transactions on Pattern Analysis and Machine Intelligence

8 (37) 2015

### **Person re-identification by modelling principal component analysis coefficients of image dissimilarities**

MARTINEL, N. AND MICHELONI, C.  
Electronics Letters

14 (50) 2014

### **Camera Selection for Adaptive Human-Computer Interface**

MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND PICIARELLI, CLAUDIO AND FORESTI, GIAN LUCA  
IEEE Transactions on Systems, Man, and Cybernetics: Systems

5 (44) 2014

### **Robust Painting Recognition and Registration for Mobile Augmented Reality**

MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA  
IEEE Signal Processing Letters

11 (20) 2013

### **Multi-signature based person re-identification**

MARTINEL, N. AND FORESTI, G.L.  
Electronics Letters

13 (48) 2012

## INTERNATIONAL CONFERENCES

### **Cloth-Changing Person Re-identification with Self-Attention**

BANSAL, VAIBHAV AND FORESTI, GIAN LUCA AND MARTINEL, NIKI  
2022 IEEE/CVF Winter Conference on Applications of Computer Vision Workshops (WACVW)

jan, 2022

### **Pro-CCaps: Progressively Teaching Colourisation to Capsules**

PUCCI, RITA AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND MARTINEL, NIKI  
2022 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)

jan, 2022

### **CVGAN: Image Generation with Capsule Vector-VAE**

PUCCI, RITA AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND MARTINEL, NIKI  
International Conference on Image Analysis and Processing

, 2022

### **Improving MRI-based Knee Disorder Diagnosis with Pyramidal Feature Details**

DUNNHOFER, MATTEO AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN  
Medical Imaging with Deep Learning

, 2021

### **Collaborative Image and Object Level Features for Image Colourisation**

PUCCI, RITA AND MICHELONI, CHRISTIAN AND MARTINEL, NIKI  
2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)

jun, 2021

### **Self-Attention Agreement Among Capsules**

PUCCI, RITA AND MICHELONI, CHRISTIAN AND MARTINEL, NIKI  
2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW)

oct, 2021

### **Where Did I See It? Object Instance Re-Identification with Attention**

BANSAL, VAIBHAV AND FORESTI, GIAN LUCA AND MARTINEL, NIKI  
2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW)

oct, 2021

### **Oriented Splits Network to Distill Background for Vehicle Re-Identification**

MUNIR, ASAD AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN  
2021 17th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)

nov, 2021

### **An Exploration of Target-Conditioned Segmentation Methods for Visual Object Trackers**

DUNNHOFER, MATTEO AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN  
European Conference on Computer Vision Workshops

, 2020

### **Multi Branch Siamese Network for Person Re-Identification**

MUNIR, ASAD AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN  
International Conference on Image Processing

, 2020

### **Is It a Plausible Colour? UCapsNet for Image Colourisation**

PUCCI, RITA AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND MARTINEL, NIKI  
Neural Information Processing Systems Workshops

, 2020

- Self and Channel Attention Network for Person Re-Identification***  
MUNIR, ASAD AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN , 2020  
International Conference on Pattern Recognition
- Fixed simplex coordinates for angular margin loss in CapsNet***  
PUCCI, RITA AND MICHELONI, CHRISTIAN AND FORESTI, GIAN LUCA AND MARTINEL, NIKI , 2020  
International Conference on Pattern Recognition
- Tracking-by-Trackers with a Distilled and Reinforced Model***  
DUNNHOFER, MATTEO AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN jul, 2020  
Asian conference on Computer Vision
- Integrated Perception and Tactical Behaviours in an Auto-Organizing Aerial Sensor Network***  
LEONG, W L AND MARTINEL, N AND HUANG, S AND MICHELONI, C AND FORESTI, G L AND TEO, R , 2020  
International Conference on Unmanned Aircraft Systems
- The Seventh Visual Object Tracking VOT2019 Challenge Results***  
KRISTAN, M. AND MATAS, J. AND LEONARDIS, A AND FELSBERG, M. AND PFLUGFELDER, R. AND KAMARAINEN, J-K. AND CEHOVIN, L. AND DRBOHLAV, O. AND LUKEZIC, A. AND BERG, A. AND ELDESOKEY, A. , 2019  
International Conference on Computer Vision Workshops
- Visual Tracking by means of Deep Reinforcement Learning and an Expert Demonstrator***  
DUNNHOFER, MATTEO AND MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN , 2019  
International Conference on Computer Vision Workshops
- Video-Based Convolutional Attention for Person Re-Identification***  
ZAMPROGNO, MARCO AND PASSON, MARCO AND MARTINEL, NIKI AND SERRA, GIUSEPPE AND MICHELONI, CHRISTIAN AND TASSO, CARLO AND FORESTI, GIAN LUCA , 2019  
International Conference on Image Analysis and Processing
- An Exploration of the Interaction Between capsules with ResNetCaps models***  
PUCCI, RITA AND MICHELONI, CHRISTIAN AND ROBERTO, VITO AND FORESTI, GIAN LUCA AND MARTINEL, NIKI , 2019  
International Conference on Distributed Smart Cameras
- An Efficient Artificial Intelligence Framework for UAV Systems***  
TOGOOTOGTOKH, ENKHTOGTOKH AND HUANG, SUNAN AND LEONG, WAI LUN AND TEO, RODNEY AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN AND MARTINEL, NIKI , 2019  
International Conference on Ubi-Media Computing
- Aggregating Deep Pyramidal Representations for Person Re-Identification***  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN , 2019  
International Conference on Computer Vision and Pattern Recognition
- Unsupervised Hashing with Neural Trees for Image Retrieval and Person Re-Identification***  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN , 2018  
International Conference on Distributed Smart Cameras
- Unsupervised Smoke Detection in Normally Smoking Environments***  
CHINI, MATTEO AND MARTINEL, NIKI AND DUNNHOFER, MATTEO AND CESCHIA, CARLO AND MICHELONI, CHRISTIAN , 2018  
International Conference on Distributed Smart Cameras
- Wide-Slice Residual Networks for Food Recognition***  
MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN , 2018  
Winter Conference on Applications of Computer Vision
- Person Re-Identification via Unsupervised Transfer of Learned Visual Representations***  
MARTINEL, NIKI AND DUNNHOFER, MATTEO AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN , 2017  
International Conference on Distributed Smart Cameras
- Temporally Smoothed Anomaly Detection in Continuous Fluids***  
CHINI, MATTEO AND MARTINEL, NIKI AND SPAGNUL, STEFANO AND MICHELONI, CHRISTIAN , 2017  
International Conference on Distributed Smart Cameras

***Real-Time Incremental and Geo-Referenced Mosaicking by Small-Scale UAVs***

AVOLA, DANILO AND FORESTI, GIAN LUCA AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND PANNONE, DANIELE AND PICIARELLI, CLAUDIO

International Conference on Image Analysis and Processing

, 2017

***Aerial Video Surveillance System for Small-Scale UAV Environment Monitoring***

AVOLA, DANILO AND FORESTI, GIAN LUCA AND MARTINEL, NIKI AND MICHELONI, CHRISTIAN AND PANNONE, DANIELE AND PICIARELLI, CLAUDIO

Advanced Video and Signal-Based Surveillance

, 2017

***Group Re-Identification via Unsupervised Transfer of Sparse Features Encoding***

LISANTI, GIUSEPPE AND MARTINEL, NIKI AND DEL BIMBO, ALBERTO AND FORESTI, GIAN LUCA

International Conference on Computer Vision

, 2017

***Mobile Food Recognition with an Extreme Deep Tree***

MARTINEL, NIKI AND PICIARELLI, CLAUDIO AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN

International conference on Distributed Smart Cameras

, 2016

***Distributed and Unsupervised Cost-Driven Person Re-identification***

MARTINEL, NIKI AND FORESTI, GIAN LUCA AND MICHELONI, CHRISTIAN

International Conference on Pattern Recognition

, 2016

***Temporal Model Adaptation for Person Re-Identification***

MARTINEL, NIKI AND DAS, ABIR AND MICHELONI, CHRISTIAN AND ROY-CHOWDHURY, AMIT K.

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I state, to be informed, in accordance with and for purposes of the Italian Art. 13 of Legislative Decree 196/2003, that the collected personal data will be treated, including by computer, in proceedings to which this declaration is made. Udine, April 5, 2023