

Federico Becattini

Curriculum Vitae

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Personal information

First name Federico
Last name Becattini
Place and date of birth Florence (Italy), 25 November 1989
Nationality Italian
Current position Associate Professor, University of Siena
Research interests Computer Vision, Machine learning, Object Detection, Action Recognition, Autonomous Driving, Trajectory Prediction, Neuromorphic Vision, Garment Recommendation, Facial Micro-Expressions Analysis, Adversarial Machine Learning

Academic studies

Nov 2014 - Feb 2018 **PhD**, *Media Integration and Communication Center (MICC), Università degli studi di Firenze*
Scholarship: Fondo Giovani MIUR
Area: Pattern Recognition and Computer Vision
Subject: Object detection, Action recognition
Advisor: Prof. Alberto Del Bimbo
Dissertation: Object and Action annotations in visual media beyond categories

Mar 2012 - Oct 2014 **Master's degree in Computer Engineering**, *Università degli Studi di Firenze*
Final degree mark: 110/110 cum laude
Thesis: Accelerating Exemplar-SVM label transfer
Advisors: Alberto Del Bimbo, Marco Bertini, Lorenzo Seidenari

Sep 2008 - Mar 2012 **Bachelor's degree in Computer Engineering**, *Università degli studi di Firenze*
Final degree mark: 101/110
Thesis: Statistical Relational Learning for Hedge Cue Detection
Advisor: Paolo Frasconi

Schools and Professional Training

July 2015 **International Computer Vision Summer School (ICVSS) 2015**
July 2016 **International Computer Vision Summer School (ICVSS) 2016**
August 2018 **IAPR Summer School on Machine and Vision Intelligence (VISMAL 2018)**

Teaching experiences

2015 - 2022 **Teaching assistant**, *Visual and Multimedia Recognition*, Prof. Alberto del Bimbo, Università degli Studi di Firenze
"Cultore della Materia"

2016 - 2022 **Teaching assistant**, *Multimedia Design and Production*, Prof. Alberto del Bimbo, Università degli Studi di Firenze

2018 - 2019 **Adjunct Professor**, *Laboratorio di Tecnologia dell'Informazione*, 3 CFU, Università degli Studi di Firenze - Ingegneria Elettronica e delle Telecomunicazioni

2019 - 2020 **Adjunct Professor**, *Fondamenti di Informatica*, 9 CFU, Università degli Studi di Firenze - Ingegneria Elettronica e delle Telecomunicazioni

- 2020 - 2022 **Adjunct Professor**, *Fondamenti di Informatica*, 6 CFU, Università degli Studi di Firenze - Ingegneria Meccanica, Ingegneria Gestionale
- 2022 - 2025 **Assistant Professor**, *Programming for Data Science*, 6 CFU, Università degli Studi di Siena - Engineering Management
- 2025 - present **Associate Professor**, *Programming for Data Science*, 6 CFU, Università degli Studi di Siena - Engineering Management
- 2025 - present **Associate Professor**, *Fundamentals of Computer Science (Mod. Algorithms and Data Structures)*, 5 CFU, Università degli Studi di Siena - Biotech Engineering
- 2025 - present **Associate Professor**, *Business Intelligence*, 6 CFU, Università degli Studi di Siena - Engineering Management

Lectures and short courses

- August 2018 **Incremental learning of person identities**, *IAPR Summer School on Machine and Vision Intelligence (VISMAL 2018)*, with Prof. Alberto del Bimbo and Ing. Matteo Bruni, Vico Equense, Italy
- April 2021 **Memory Networks**, *AIDA PhD short course - 2 ECTS*, with Prof. Alberto del Bimbo, Online
- May 2022 **From recurrent neural networks to memory augmented neural networks**, *Tutorial in conjunction with ICIAP2021*, Lecce, Italy
- October 2022 **Memory Networks**, *Tutorial in conjunction with ACM MM 2022*, with Ing. Tiberio Uricchio, Lisbon, Portugal
- January 2023 **Deep Learning with Memory**, *PhD course at Università degli Studi di Firenze*, Florence, Italy, 12 hours
- February 2023 **Information Retrieval**, *Master course at Università IUAV di Venezia*, Venice, Italy, 20 hours
- May 2023 **Deep Learning with Memory**, *PhD course at Università degli Studi di Siena*, Siena, Italy, 20 hours
- September 2023 **Deep Learning with Memory**, *Tutorial in conjunction with IAPR Summer School on Machine and Vision Intelligence (VISMAL 2023)*, Padova, Italy
- December 2023 **Invited Lecture**, *Lecture about "Deep Learning with Memory" in the "Deep Learning" master course at the University of Catania, held by Prof. Giovanni Maria Farinella*, 2 hours
- September 2024 **Artificial Intelligence**, *DeepFarm Project - Erasmus+*, 20 hours
- October 2024 **Intelligenza Artificiale - Passato, presente, futuro**, *Progetto Future Labs and Beyond - progetto PNRR Percorsi Nazionali di Formazione alla Transizione Digitale del Personale Scolastico, ISIS Valdarno*, 16 hours
- January 2025 **Invited Lecture**, *Lecture about "Deep Learning with Memory" in the "Deep Learning" master course at the University of Catania, held by Prof. Giovanni Maria Farinella*, 2 hours
- December 2025 **Training Course**, *"Deep Learning per Computer Vision" - a course on deep learning and computer vision for the personnel of CNR (Consiglio Nazionale delle Ricerche)*, 20 hours

Professional Experiences

- Nov 2014 - Oct 2015 **Research fellow**, *Media Integration and Communication Center (MICC), Università degli Studi di Firenze*
 Subject: Research and development of efficient techniques for semantic image annotation (THE SOCIAL MUSEUM AND SMART TOURISM, MIUR project no. CTN01 00034 23154 SMST)

- Nov 2017 - Oct 2018 **Research fellow**, *Media Integration and Communication Center (MICC), Università degli Studi di Firenze*
 Subject: Studio e sviluppo di un Sistema integrato per la mappatura ed il posizionamento delle persone all'interno di edifici (MAPPER - Tuscany POR FESR 2014-2020)
- Nov 2018 - Oct 2021 **Research fellow**, *Media Integration and Communication Center (MICC), Università degli Studi di Firenze*
 Subject: Sviluppo e implementazione di sistemi di visione artificiale per piattaforma ICT per beni culturali (IDEHA - FESR FSE PON Ricerca e Innovazione 2014-2020)
- Nov 2021 - Oct 2022 **Research fellow**, *Media Integration and Communication Center (MICC), Università degli Studi di Firenze*
 Subject: Predizione di traiettorie di osservazione su video 360 con deep network. (AI4MEDIA - A European Excellence Centre for Media, Society and Democracy, EU Horizon 2020 research and innovation programme)
- Nov 2022 - present **Tenure Track Assistant Professor (RTD-B)**, *Università degli Studi di Siena*

Involvement in research and industrial projects

- 2015 **SMST**, *The Social Museum and Smart Tourism*, MIUR project no. CTN01 00034 23154 SMST
- 2016 **Innovecento**, *Museo Novecento Innovation Lab*, Municipality of Florence
- 2017 **MAPPER**, *Studio e sviluppo di un sistema integrato per la mappatura ed il posizionamento della persona all'interno degli edifici*, Tuscany POR FESR 2014-2020
- 2017 **eServant**, *Events in crowded places A smart service managment*, Tuscany POR-CReO FESR 2014-2020
- 2018 **IDEHA**, *Improving the customer experience in stores by intelligent computer vision*, PON SUD
- 2018 **IMRA**, *"Computer Vision Solutions to Support Behavior Analysis and Prediction of Actions and Scene Evolution for the Purpose of Autonomous Driving"*, Research collaboration with industrial partner IMRA-EUROPE SAS
- 2020 **I-MALL**, *Improving the customer experience in stores by intelligent computer vision*, PRIN 2017
- 2022 **AI4MEDIA**, *A European Excellence Centre for Media, Society and Democracy*, EU Horizon 2020 research and innovation programme
- 2023 **AcrossEU**, *The AcrossEU Consortium project brings together nine universities from different European countries.*, Erasmus+
- 2023 **DeepFarm**, *a consortium of 12 partners where 3 European universities will support 8 universities in four third countries (Madagascar, Ivory Coast, Haiti and the Dominican Republic)*, Erasmus+
- 2025 **CONSTR**, *a COLlectionless-based Neuro-Symbolic Theory for learning and Reasoning*, bando a cascata del Piano Nazionale di Ripresa e Resilienza (PNRR)
- 2025 **CARES**, *Climate-Aware Robotics for Energy Systems*, Tuscany POR FESR
- 2025 **AD ASTRA**, *Piattaforma di Artificial intelligence per il trattamento dei Dati per l'Analisi STRATegica e predettiva*, Tuscany POR FESR
- 2025 **SAIL**, *SistemA per Interviste automatiche multilingua con impiego di tecnologie Llm/ai/ml*, Tuscany POR FESR

Primary Investigator in research and industrial projects

- 2023 **FEATHER**, *Forecasting and Estimation of Actions and Trajectories for Human-robot interactions*, Piano per lo Sviluppo della Ricerca (PSR 2023) of the University of Siena, Funded for 14.771€
- 2024 **GTS**, *"Trackline Recognition in Tramway"*, Industrial collaboration with Hitachi Rail GTS Italia S.r.l., Principal Investigator, Funded for 40.000€
- 2025 **RAINFALL**, *Recognition Algorithms for Interpreting Neuromorphic-based Facial Actions with Low Latency*, Piano per lo Sviluppo della Ricerca (PSR 2025) of the University of Siena, Funded for 11.000€
- 2025 **CNR**, *"Deep Learning per Computer Vision"*, Training course funded by Consiglio Nazionale delle Ricerche (CNR) for 39.500€
- 2026 **AURA**, *Aiuto Universitario per la Resilienza Accademica*, Fondazione TIM, Funded for 176.000€

PhD Reviewer and Committee Member

- PhD Committee Secretary **Dottorato di Ricerca in Informatica e Scienze Matematiche e Fisiche**, University of Udine, Italy, March 2023
- PhD Committee President **Dottorato di Ricerca in Informatica e Scienze Matematiche e Fisiche**, University of Udine, Italy, March 2023
- PhD Committee Secretary **Dottorato di Ricerca in Automotive per una Mobilità Intelligente**, University of Bologna, Italy, March 2024
- PhD Committee President **Dottorato in Ingegneria e Scienza dell'Informazione**, University of Siena, Italy, July 2024
- PhD External Examiner **PhD Electronic and Electrical Engineering**, University of Strathclyde in Glasgow, UK, November 2024
- PhD Thesis Reviewer **Dottorato di Ricerca in Informatica e Scienze Matematiche e Fisiche**, University of Udine, Italy, March 2023
- PhD Thesis Reviewer **Dottorato di Ricerca in Brain, Mind and Computer Science**, University of Padova, Italy, November 2024
- PhD Committee Secretary **Dottorato di Ricerca in Brain, Mind and Computer Science**, University of Padova, Italy, March 2025
- PhD Committee President **PhD Program in Smart Computing**, University of Siena, Italy, March 2025

Scientific Community services

- Associate Editor **Journal of the Franklin Institute**, Elsevier, since December 2025
- Associate Editor **International Journal of Multimedia Information Retrieval**, Springer, since September 2022
- Guest Editor **Special Issue on Eyes on People: Recent Trends on Human Analysis, Perception and Generation**, Computer Vision and Image Understanding, 2023
- Guest Editor **Special Issue on Computer Vision in Human Analysis: From Face and Body to Clothes**, Sensors, 2022
- Guest Editor **Special Issue on Deep Learning for Augmented and Virtual Reality: from Detection to Forecasting**, Sensors, 2023
- Conference Organization ECCV 2012 volunteer, CBMI 2017 volunteer, ICCV 2017 volunteer, ICPR 2020 organization team
- Area Chair **ACM Conference on Multimedia (ACM MM)**, 2023
- Area Chair **ACM Conference on Multimedia (ACM MM)**, 2024

Area Chair	British Machine Vision Conference (BMVC), 2024
Area Chair	Scalable Continual Learning for Lifelong Foundation Models (Continual FOMO) - NeurIPS workshop, 2024
Area Chair	British Machine Vision Conference (BMVC), 2025
Publicity Chair	ACM Conference on Multimedia (ACM MM), 2025
Tutorial Chair	ACM International Conference on Multimedia Retrieval (ICMR), 2025
Workshop Organization	Facial and Body Expressions, micro-expressions and behavior recognition (FBE2020) in conjunction with ICPR 2020
Workshop Organization	Towards a Complete Analysis of People: From Face and Body to Clothes (T-CAP) in conjunction with ICIAP 2021
Workshop Organization	Towards a Complete Analysis of People: From Face and Body to Clothes (T-CAP) in conjunction with ICPR 2022
Workshop Organization	Multimedia Computing towards Fashion Recommendation in conjunction with ACM MM 2022
Workshop Organization	1st International Workshop and Challenge on People Analysis: from face, body and fashion to 3d virtual avatars in conjunction with ECCV 2022
Workshop Organization	Towards a Complete Analysis of People: From Face and Body to Clothes (T-CAP) in conjunction with ECCV 2024
Workshop Organization	Workshop on Neuromorphic Vision: Advantages and Applications of Event Cameras (NEVI) in conjunction with ECCV 2024
Workshop Organization	Facial and Body Expressions, micro-expressions and behavior recognition (FBE2024) in conjunction with ICPR 2024
Workshop Organization	Event-based Vision in the Era of Generative AI - Transforming Perception and Visual Innovation (EVGEN) in conjunction with WACV 2025
Workshop Organization	Workshop on Neuromorphic Vision: Advantages and Applications of Event Cameras (NEVI) in conjunction with ICCV 2025
Workshop Organization	Alternative Visual Domains for Detection, Tracking and Forecasting (AVD) in conjunction with ICIAP 2025
Session Chair	Vision for Art workshop, ECCV, 2022
Conference and workshop reviewing	CVPR, ICCV, ECCV, WACV, ACM MM, AAAI, ICPR, IJCAI, BMVC, ICIAP, CBMI, ICMR, ISM, CHI workshop, SAIAD workshop, VIQA workshop
Journal reviewing	IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Multimedia, IEEE Transactions on Automation Science and Engineering, ACM Transactions on Multimedia Computing and Applications, Pattern Recognition, Multimedia Tools and Applications, Pattern Analysis and Applications, Electronics, Sensors, Informatics, Expert Systems With Applications, Transactions on Industrial Informatics, IEEE Transactions on Artificial Intelligence, Pattern Recognition Letters, IEEE Transactions on Robotics, International Journal of Computer Vision

Patents

EP3916676 - *Computer-implemented method for predicting multiple future trajectories of moving objects*, **Becattini Federico**, Marchetti Francesco, Seidenari Lorenzo, Del Bimbo Alberto, Abad Frédéric, Buchicchio Kevin, Bendahan Rémy

Awards

Best paper award "Imaging Novecento. A Mobile App for Automatic Recognition of Artworks and Transfer of Artistic Styles", *Euro-Mediterranean Conference* EUROMED, 2016

Best poster award	"Am I done? predicting action progress in videos", <i>IAPR Summer School on Machine and Vision Intelligence</i> , VISMAC 2018
Travel grant award	<i>Anticipating Human Behavior workshop</i> , ECCV 2018
Honorable mention	Argoverse Motion Forecasting Challenge, <i>in conjunction with Workshop on Autonomous Driving (WAD)</i> , CVPR 2020
Best paper award	"Deep Variational Learning for Multiple Trajectory Prediction of 360° Head Movements", <i>MMSys 2022</i>
Outstanding Reviewer	European Conference on Computer Vision, <i>ECCV 2024</i>

Languages

Italian	Mother tongue
English	Fluent
Language certification	Key English Test (KET) Preliminary English Test (PET) First Certificate in English (FCE)

Information Technology Skills

Basic	PHP, Prolog, UML, SQL
Intermediate	Java, Javascript, Bash, C/C++
Expert	Matlab, Python
Tools and Libraries	OpenCV, OpenMP, gSOAP, SMCube, jQuery, Arduino, Raspberry Pi, Caffe, MatConvNet, Keras, TensorFlow, Pytorch, Django, Docker, Git, ChatGPT, Copilot, Numpy
Miscellaneous	Windows, Linux, Office/OpenOffice, L ^A T _E X, Photoshop
Certification	European Computer Driving Licence (ECDL)

Publications

International Conferences and Workshops

F. Becattini, L. Seidenari, A. Del Bimbo, "Indexing ensembles of exemplar-svms with rejecting taxonomies", In Proc. of *Content-Based Multimedia Indexing (CBMI)*, 2016

G. Cuffaro, **F. Becattini**, C. Bacchi, L. Seidenari, A. Del Bimbo, "Segmentation Free Object Discovery in Video", in Proc. of *European Conference on Computer Vision (ECCV) 2016, Workshop on Brave New Ideas in Motion Representation*

F. Becattini, A. Ferracani, L. Landucci, D. Pezzatini, T. Uricchio, A. Del Bimbo, "Imaging Novecento. A Mobile App for Automatic Recognition of Artworks and Transfer of Artistic Styles", in Proc. of *Euro-Mediterranean Conference (EUROMED)*, 2016 (**best paper award**)

F. Becattini, L. Seidenari, L. Berlincioni, L. Galteri, A. Del Bimbo, "Vehicle Trajectories from Unlabeled Data through Iterative Plane Registration", in Proc. of *International Conference on Image Analysis and Processing (ICIAP)*, 2019

F. Becattini, A. Ferracani, F. Principi, M. Ghianni, A. Del Bimbo, "NeuronUnityIntegration2.0. A Unity Based Application for Motion Capture and Gesture Recognition", in Proc. of *International Conference on Multimedia, Demo*, 2019

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Mantra: Memory augmented networks for multiple trajectory prediction", in Proc. of *International Conference on Computer Vision and Pattern Recognition*, 2020

L. Cultrera, L. Seidenari, **F. Becattini**, P. Pala, A. Del Bimbo, "Explaining Autonomous Driving by Learning End-to-End Visual Attention", in Proc. of *International Conference on Computer Vision and Pattern Recognition, Workshop on Safe Artificial Intelligence for Automated Driving, 2020*

P. Bongini, **F. Becattini**, A. Bagdanov, A. Del Bimbo, "Visual Question Answering for Cultural Heritage", in Proc. of *Florence Heritech, 2020*

L. Berlincioni, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Multiple Future Prediction Leveraging Synthetic Trajectories", in Proc. of *International Conference on Pattern Recognition, 2020*

S. Undri Innocenti, **F. Becattini**, F. Pernici, A. Del Bimbo, "Temporal Binary Representation for Event-Based Action Recognition", in Proc. of *International Conference on Pattern Recognition, 2020*

L. De Divitiis, **F. Becattini**, C. Baecchi, A. Del Bimbo, "Garment Recommendation with Memory Augmented Neural Networks", in Proc. of *International Conference on Pattern Recognition, Workshop on Visual-Textual Image Understanding and Retrieval, 2020*

L. De Divitiis, **F. Becattini**, C. Baecchi, A. Del Bimbo, "Style-Based Outfit Recommendation", In Proc. of *Content-Based Multimedia Indexing (CBMI), 2021*

F. Becattini, X. Song, C. Baecchi, S. Fang, C. Ferrari, L. Nie, A. Del Bimbo, "PLM-IPE: A Pixel-Landmark Mutual Enhanced Framework for Implicit Preference Estimation", In Proc. of *ACM MM ASIA, 2022*

Q. Guimard, L. Sassatelli, F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Deep Variational Learning for Multiple Trajectory Prediction of 360° Head Movements", In Proc. of *MMSys, 2022 (best paper award)*

A. Alfani, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Online Deep Clustering with Video Track Consistency", in Proc. of *International Conference on Pattern Recognition, 2022*

A. Ciamarra, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Forecasting Future Instance Segmentation with Learned Optical Flow and Warping", in Proc. of *International Conference on Image Analysis and Processing (ICIAP), 2021*

F. Becattini, G. Becchi, A. Ferracani, A. Del Bimbo, L. Lo Presti, G. Mazzola, M. La Cascia, F. Cunico, A. Toiari, M. Cristani, A. Greco, A. Saggese, M. Vento, "I-MALL An Effective Framework for Personalized Visits. Improving the Customer Experience in Stores", in Proc. of *ACM Multimedia (ACM MM) 2022 workshops*

F. Becattini, T. Uricchio, "Memory Networks", in Proc. of *ACM Multimedia (ACM MM) 2022*

X. Song, J. Chen, **F. Becattini**, W. Guan, Y. Zhan, T. S. Chua, "MCFR'22: 1st Workshop on Multimedia Computing towards Fashion Recommendation", in Proc. of *ACM Multimedia (ACM MM) 2022*

P. Bongini, **F. Becattini**, A. Del Bimbo, "Is GPT-3 all you need for Visual Question Answering in Cultural Heritage?", in Proc. of *European Conference on Computer Vision (ECCV) 2022 workshops*

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Explainable Sparse Attention for Memory-based Trajectory Predictors", in Proc. of *European Conference on Computer Vision (ECCV) 2022 workshops*

L. Berlincioni, L. Cultrera, C. Albisani, L. Cresti, A. Leonardo, S. Picchioni, **F. Becattini**, A. Del Bimbo, "Neuromorphic Event-based Facial Expression Recognition", in Proc. of *Computer Vision and Pattern Recognition (CVPR) 2023 workshops*

L. Agnolucci, A. Baldrati, F. Todino, **F. Becattini**, M. Bertini, A. Del Bimbo, "ECO: Ensembling Context Optimization for Vision-Language Models", in Proc. of *International Conference on Computer Vision 2023 workshops*

D. Cioni, L. Berlincioni, **F. Becattini**, A. Del Bimbo, "Diffusion Based Augmentation for Captioning and Retrieval in Cultural Heritage", in Proc. of *International Conference on Computer Vision (ICCV) 2023 workshops*

A. Ciamarra, R. Caldelli, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Deepfake detection by exploiting surface anomalies: the SurFake approach", in Proc. of *Winter Conference on Applications of Computer Vision (WACV) 2024 workshops*

M. Tiezzi, **F. Becattini**, S. Marullo, S. Melacci, "Memory Head for Pre-Trained Backbones in Continual Learning", in Proc. of *Conference on Lifelong Learning Agents (CoLLAs), 2024*

V. Casula, L. Berlincioni, L. Cultrera, **F. Becattini**, C. Pero, C. Bisogni, M. Bertini, A. Del Bimbo, "Garment Attribute Manipulation with Multi-level Attention", in Proc. of *European Conference on Computer Vision (ECCV) 2024 workshops*

A. Simoni, F. Marchetti, G. Borghi, **F. Becattini**, D. Davoli, L. Garattoni, G. Francesca, L. Seidenari, R. Vezzani, "Depth-based Privileged Information for Boosting 3D Human Pose Estimation on RGB", in Proc. of *European Conference on Computer Vision (ECCV) 2024 workshops*

L. Berlincioni, L. Cultrera, **F. Becattini**, M. Bertini, A. Del Bimbo, "Prompt and Prejudice", in Proc. of *European Conference on Computer Vision (ECCV) 2024 workshops*

F. Becattini, L. Cultrera, L. Berlincioni, C. Ferrari, A. Leonardo, A. Del Bimbo, "Neuromorphic Facial Analysis with Cross-Modal Supervision", in Proc. of *European Conference on Computer Vision (ECCV) 2024 workshops*

Gabriele Magrini, **F. Becattini**, Pietro Pala, A. Del Bimbo, A. Porta, "Neuromorphic Drone Detection: an Event-RGB Multimodal Approach", in Proc. of *European Conference on Computer Vision (ECCV) 2024 workshops*

M. Tiezzi, S. Marullo, **F. Becattini**, S. Melacci, "Continual Neural Computation", in Proc. of *European Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECMLPKDD), 2024*

L. Berlincioni, L. Cultrera, G. Magrini, **F. Becattini**, P. Pala, A. Del Bimbo, "Feature Hallucination via Privileged Information for Neuromorphic Face Analysis", in Proc. of *International Conference on Pattern Recognition, Workshop on Facial and Body Expressions, 2024*

H. Silva, **F. Becattini**, L. Seidenari, "Attacking Attention of Foundation Models Disrupts Downstream Tasks", in Proc. of *Computer Vision and Pattern Recognition (CVPR) 2025 workshops*

G. Magrini, **F. Becattini**, G. Colombo, P. Pala, "Ev-flying: an event-based dataset for in-the-wild recognition of flying objects", in Proc. of *Computer Vision and Pattern Recognition (CVPR) 2025 workshops*

M. Di Rienzo, M. Bruni, L. Galteri, **F. Becattini**, M. Bertini, "Multi-Frame Alignment for Video Super-Resolution using Attention", in Proc. of *International Conference on Image Analysis and Processing (ICIAP), 2025*

M. Trippodo, **F. Becattini**, L. Seidenari, "Immunizing Images from Text to Image Editing via Adversarial Cross-Attention", in Proc. of *ACM Multimedia 2025*

G. Magrini, N. Marini, **F. Becattini**, L. Berlincioni, N. Biondi, P. Pala, A. Del Bimbo, "FRED: The Florence RGB-Event Drone Dataset", in Proc. of *ACM Multimedia 2025*

E. Zoppellari, **F. Becattini**, M. Fiorucci, L. Ballan, "Multiview Progress Prediction of Robot Activities", in Proc. of *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2026*

G. Magrini, N. Biondi, **F. Becattini**, P. Pala, "PEPR: Privileged Event-based Predictive Regularization for Domain Generalization", in Proc. of *Computer Vision and Pattern Recognition (CVPR) 2026*

Book Chapters

L. Berlincioni, **F. Becattini**, L. Galteri, L. Seidenari, A. Del Bimbo, "Semantic Road Layout Understanding by Generative Adversarial Inpainting", *Inpainting and Denoising Challenges. The Springer Series on Challenges in Machine Learning.*, 2019

International Journals

F. Becattini, L. Seidenari, A. Del Bimbo, "Indexing quantized ensembles of exemplar-SVMs with rejecting taxonomies", In *Multimedia Tools and Applications*, 2017. (Special Issue: Content Based Multimedia Indexing)

F. Becattini, T. Uricchio, L. Seidenari, A. Del Bimbo, L. Ballan, "Am I done? predicting action progress in videos", *ACM Trans. on Multimedia Computing, Communications, and Applications (TOMM)*, 2020

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Multiple Trajectory Prediction of Moving Agents with Memory Augmented Networks", *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2020

C. Ferrari, **F. Becattini**, L. Galteri, A. Del Bimbo, "(Compress and Restore)^N: a Robust Defense Against Adversarial Attacks on Image Classification", *ACM Trans. on Multimedia Computing, Communications, and Applications (TOMM)*, 2022

L. De Divitiis, **F. Becattini**, C. Baecchi, A. Del Bimbo, "Disentangling Features for Fashion Recommendation", *ACM Trans. on Multimedia Computing, Communications, and Applications (TOMM)*, 2022

F. Becattini, F. Palai, A. Del Bimbo, "Understanding human reactions looking at facial micro-expressions with an event camera", *IEEE Transactions on Industrial Informatics*, 2022

F. Becattini, A. Ferracani, G. Becchi, A. Del Bimbo, "Events in Crowded Places: a Smart Service Management", *Pattern Recognition Letters*, 2022

D. Pucci, **F. Becattini**, A. Del Bimbo, "Joint-Based Action Progress Prediction", *Sensors*, 2023

L. Cultrera, L. Seidenari, **F. Becattini**, P. Pala, A. Del Bimbo, "Explaining autonomous driving with visual attention and end-to-end trainable region proposals", *Journal of Ambient Intelligence and Humanized Computing*, 2023

F. Becattini, P. Bongini, L. Bulla, A. Del Bimbo, L. Marinucci, M. Mongiovì, V. Presutti, "VISCOUNTH: A Large-Scale Multilingual Visual Question Answering Dataset for Cultural Heritage", *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)*, 2023

F. Becattini, L. De Divitiis, C. Baecchi, A. Del Bimbo, "Fashion Recommendation Based on Style and Social Events", *Multimedia Tools and Applications (MTAP)*, 2023

F. Becattini, F. Teotini, A. Del Bimbo, "Transformer-based Graph Neural Networks for Outfit Generation", *IEEE Transactions on Emerging Topics in Computing*, 2023

F. Becattini, C. Bisogni, V. Loia, C. Pero, F. Hao, "Head Pose Estimation Patterns as Deepfake Detectors", *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)*, 2023

G. Scaramuzzino, **F. Becattini**, A. Del Bimbo, "Attribute disentanglement with gradient reversal for interactive fashion retrieval", *Pattern Recognition Letters*, 2023

L. Cultrera, **F. Becattini**, L. Seidenari, P. Pala, A. Del Bimbo, "Addressing Limitations of State-Aware Imitation Learning for Autonomous Driving", *IEEE Transactions on Intelligent Vehicles*, 2023

Q. Guimard, L. Sassatelli, F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Deep Variational Learning for 360° Adaptive Streaming", *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)*, 2024

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Smemo: social memory for trajectory forecasting", *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2024

A. Ciamarra, **F. Becattini**, L. Seidenari, A. Del Bimbo, "FLODCAST: Flow and depth forecasting via multimodal recurrent architectures", *Pattern Recognition*, 2024

F. Marchetti, T. Morgan, **F. Becattini**, L. Seidenari, A. Del Bimbo, A. Alahi, "CrossFeat: Semantic Cross-modal Attention for Pedestrian Behavior Forecasting", *IEEE Transactions on Intelligent Vehicles*, 2024

F. Becattini, X. Chen, A. Puccia, H. Wen, X. Song, L. Nie, A. Del Bimbo, "Interactive Garment Recommendation with User in the Loop", *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)*, 2024

L. Berlincioni, L. Cultrera, **F. Becattini**, A. Del Bimbo, "Neuromorphic Valence and Arousal Estimation", *Journal of Ambient Intelligence and Humanized Computing*, 2024

F. Becattini, L. Berlincioni, L. Cultrera, A. Del Bimbo, "Neuromorphic face analysis: a survey", *Pattern Recognition Letters*, 2025

A. Simoni, F. Marchetti, G. Borghi, **F. Becattini**, L. Seidenari, R. Vezzani, A. Del Bimbo, "3D Pose Nowcasting: Forecast the future to improve the present", *Computer Vision and Image Understanding*, 2025

G. Magrini, **F. Becattini**, L. Cultrera, L. Berlincioni, P. Pala, A. Del Bimbo, "Spike-TBR: A noise resilient neuromorphic event representation", *Pattern Recognition Letters*, 2025

L. Cultrera, **F. Becattini**, L. Berlincioni, C. Ferrari, A. Del Bimbo, "Spatio-temporal transformers for action unit classification with event cameras", *Computer Vision and Image Understanding*, 2025

Other

F. Becattini, L. Seidenari, A. Del Bimbo, "Indexing ensembles of exemplar-svms with rejecting taxonomies", poster presentation at *International Computer Vision Summer School (ICVSS) 2015*

F. Becattini, L. Seidenari, T. Uricchio, A. Del Bimbo, L. Ballan, "Am I done? Predicting action progress in videos", poster presentation at *Anticipating Human Behavior workshop, ECCV 2018, Munich*

F. Becattini, L. Seidenari, T. Uricchio, A. Del Bimbo, L. Ballan, "Am I done? predicting action progress in videos", oral and poster presentation at *IAPR Summer School on Machine and Vision Intelligence, VISMACH 2018, Vico Equense (best poster award)*

L. Berlincioni, **F. Becattini**, L. Galteri, L. Seidenari, A. Del Bimbo, "Semantic Road Layout Understanding by Generative Adversarial Inpainting", oral presentation at *Chalearn Satellite Workshop on Image and Video Inpainting, ECCV 18, Munich*

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Multi-modal trajectory prediction in Carla simulator", demo at *European Conference on Computer Vision, ECCV 20*, Glasgow

F. Marchetti, **F. Becattini**, L. Seidenari, A. Del Bimbo, "Multimodal trajectory prediction in the CARLA simulator", demo at *International Conference on Pattern Recognition, ICPR 20*, Milan

F. Vannoni, P. Bongini, **F. Becattini**, A. Bagdanov, A. Del Bimbo, "Data Collection for Contextual and Visual Question Answering in the Cultural Heritage Domain", demo at *International Conference on Pattern Recognition, ICPR 20*, Milan

Speaker at International Conferences

- Bucharest 2016 "Indexing ensembles of exemplar-svms with rejecting taxonomies", Content-Based Multimedia Indexing (CBMI)
- Amsterdam 2016 "Segmentation Free Object Discovery in Video", European Conference on Computer Vision (ECCV) 2016, Workshop on Brave New Ideas in Motion Representation
- Munich 2018 "Semantic Road Layout Understanding by Generative Adversarial Inpainting", European Conference on Computer Vision (ECCV) 2018, Workshop on Image and Video Inpainting
- Munich 2018 "Am I done? Predicting Action Progress in Videos", European Conference on Computer Vision (ECCV) 2018, Workshop on Anticipating Human Behavior
- Trento 2019 "Vehicle Trajectories from Unlabeled Data through Iterative Plane Registration", International Conference on Image Analysis and Processing (ICIAP)
- Seattle 2020 "Mantra: Memory augmented networks for multiple trajectory prediction", International Conference on Computer Vision and Pattern Recognition (CVPR)
- Seattle 2020 "Explaining Autonomous Driving by Learning End-to-End Visual Attention", International Conference on Computer Vision and Pattern Recognition (CVPR), Workshop on Safe Artificial Intelligence for Automated Driving
- Glasgow 2020 "Multi-modal trajectory prediction in Carla simulator", European Conference on Computer Vision (ECCV)
- Milan 2020 "Multiple Future Prediction Leveraging Synthetic Trajectories", International Conference on Pattern Recognition (ICPR)
- Milan 2020 "Temporal Binary Representation for Event-Based Action Recognition", International Conference on Pattern Recognition (ICPR)
- Montreal 2022 "Online Deep Clustering with Video Track Consistency", International Conference on Pattern Recognition (ICPR)
- Lecce 2022 "Memory Networks", International Conference on Image Analysis and Processing (ICIAP)
- Lecce 2022 Activities of UNIFI-MICC in Digital Humanities, Round Table at the Artificial Intelligence for Digital Humanities workshop, International Conference on Image Analysis and Processing (ICIAP)
- Tel Aviv 2022 "Is GPT-3 all you need for Visual Question Answering in Cultural Heritage?", European Conference on Computer Vision (ECCV) 2022
- Tel Aviv 2022 "Explainable Sparse Attention for Memory-based Trajectory Predictors", European Conference on Computer Vision (ECCV) 2022
- Milan 2024 "Prompt and Prejudice", European Conference on Computer Vision (ECCV) 2024
- Milan 2024 "Neuromorphic Drone Detection: an Event-RGB Multimodal Approach", European Conference on Computer Vision (ECCV) 2024

- Milan 2024 "Depth-based Privileged Information for Boosting 3D Human Pose Estimation on RGB", European Conference on Computer Vision (ECCV) 2024
- Milan 2024 "Garment Attribute Manipulation with Multi-level Attention", European Conference on Computer Vision (ECCV) 2024
- Milan 2024 "Neuromorphic Facial Analysis with Cross-Modal Supervision", European Conference on Computer Vision (ECCV) 2024
- Nashville 2025 "EV-Flying: an Event-based Dataset for In-The-Wild Recognition of Flying Objects", International Conference on Computer Vision and Pattern Recognition (CVPR), Workshop on Event-based Vision
- Nashville 2025 "Neuromorphic Facial Analysis with Cross-Modal Supervision", International Conference on Computer Vision and Pattern Recognition (CVPR), Workshop on Event-based Vision
- Nashville 2025 "Attacking Attention of Foundation Models Disrupts Downstream Tasks", International Conference on Computer Vision and Pattern Recognition (CVPR), Workshop of Adversarial Machine Learning on Computer Vision: Foundation Models + X