Alessandro Flaborea

PhD in Computer Science

flaborea.alessandro@gmail.com   [Website](#)   [Github](#)

+39 3467202432   Rome, Italy   [LinkedIn](#)

Ph.D. (ended in May 2024) with a strong background in Computer Vision and Machine Learning. Dedicated to advancing the frontiers of Artificial Intelligence through innovative research. Member of the Perception and Intelligence Lab ([PINlab](#)), collaborating with [ItalAI](#). Specialized in video anomaly detection, procedural learning, human pose forecasting, and hyperbolic neural networks. Goal-oriented team member with strong project management skills. Capable of seamlessly handling diverse tasks while upholding high quality and performance standards.

EDUCATION

University of Amsterdam (Dec. 2023 - Feb. 2024)
Visiting research
- **Supervisor:** Professor Pascal Mettes

Sapienza University of Rome (2021–2024)
Ph.D. in Computer Science
- PhD focused on computer vision, specialized in the analysis of human behaviours (e.g. pose forecasting, anomaly detection, egocentric vision) and interpretability.
- **Thesis:** Anomaly detection across different domains: the role of generative models, self-supervised learning, hyperbolic neural networks and large language models
- **Supervisor:** Professor Fabio Galasso

Sapienza University of Rome (2018–2020)
MSc Data Science – 110 cum laude/110
- **Thesis:** Query-Guided Few-Shot Learning

University of Udine (2014–2018)
BSc Computer Science
- **Thesis:** Integration and Interoperability in public administration systems
- **Study Abroad Program (Erasmus+):** University of Gothenburg, Sweden, 6 months

PUBLICATIONS

- **A. Flaborea**, G.M. D'Amely Di Melendugno, L. Plini, L. Scofano, E. De Matteis, A. Furnari, G.M. Farinella, F. Galasso, "PREGO: online mistake detection in Procedural EGOcentric videos", Computer Vision and Pattern Recognition (CVPR), 2024
  Keywords: Mistake Detection, Procedural learning, LLM, Action Recognition

- **A. Flaborea**, L. Collorone, G.M. D'Amely Di Melendugno, S. D'Arrigo, B. Prenkaj, F. Galasso, "Multimodal Motion Conditioned Diffusion Model for Skeleton-based Video Anomaly Detection", International Conference on Computer Vision (ICCV), 2023
  Keywords: Video Anomaly Detection, Diffusion Models, Generative AI, GCN

- M.R. Ur Rahman, L. Scofano, E. De Matteis, **A. Flaborea**, A. Sampieri, F. Galasso. "Best Practices for 2-Body Pose Forecasting", Computer Vision and Pattern Recognition (CVPR) Workshops, 2023
  Keywords: Human Pose Forecasting, GCN

- **A. Flaborea**, B. Prenkaj, B. Munjal, M.A. Sterpa, D. Aragona, L. Podo, F. Galasso. "Are We Certain It's Anomalous?", Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2023
  Keywords: Time series anomaly detection, Generative AI, GAN, Hyperbolic NN

- B. Munjal, **A. Flaborea**, S. Amin, F. Tombari, F. Galasso. "Query-guided networks for few-shot fine-grained classification and person search". Pattern Recognition, 2023
  Keywords: Few-shot Learning, Person Search, Query-guided NN

- B. Prenkaj, D. Aragona, **A. Flaborea**, F. Galasso, S. Gravina, L. Podo, E. Reda, P Velardi. "A self-supervised algorithm to detect signs of social isolation in the elderly from daily activity sequences." Artificial Intelligence in Medicine, 2023
  Keywords: Time series anomaly detection, Generative AI, GAN, Hyperbolic NN

- **A. Flaborea**, G.M. D'Amely di Melendugno, S. D'Arrigo, M.A. Sterpa, A. Sampieri, F. Galasso. "Contracting Skeletal Kinematics for Human-Related Video Anomaly Detection", Under Review
  Keywords: Video anomaly detection, GCN, Hyperbolic NN

TEACHING EXPERIENCE

Teaching Assistant (2019–2022)

Sapienza University of Rome

- "Advanced Machine Learning", MSc Data Science, 2022
- "Fundamental of Data Science", MSc Data Science, 2020-2022
- "Algorithmic Methods of Data Mining", MSc Data Science, 2019

AWARDS & FUNDING

- **Best Paper Award**: The work "Best Practices for 2-Body Pose Forecasting" was awarded as best paper of the Precognition workshop at CVPR 2023
- **Ph.D. Scholarship**: Winner of the PhD Scholarship (Funded by Regione Lazio and Datawizard s.r.l.)
- **Teaching Assistant**: Winner of the scholarship as Teaching Assistant of the Google Training Camp for the MSc in Data Science.
- **Teaching Assistant**: Winner of the scholarships as Teaching Assistant of the courses "Algorithmic Methods of Data Mining", "Fundamentals of Data Science" and "Advanced Machine Learning" of the MSc in Data Science.
- **Erasmus+ Program**: Winner of 6 months of scholarship.
- **Datathon 2019**: Awarded with a grant of 10.000€ for the project winner of the competition "Datathon", organized by the Italian Ministry of Economic Development.
- **"Stats Under the Stars" Hackathon 2019**: Awarded as the best team using SAS software and platform, organized by Bocconi University, Milan, Italy.

CONFERENCES & PRESENTATIONS

- Invited Speaker - Data Science Hub of Ferrari S.p.A., Topic: "Generative AI Models & Computer Vision Use Cases"
- Invited Speaker - Visual Anomaly and Novelty Detection workshop, CVPR 2023: "Are we certain it's anomalous?" spotlight paper presentation.

WORK EXPERIENCES

- **Software Developer**
  Infratel Italia, Nov 2019 to Jan 2020
  Development of the project winner of the Datathon 2019. Python, MySQL, QGis
- **Software Developer**
  Data Elaboration Center, Municipality of Lignano, Italy, Oct. 2017 to Jan 2018
  Thesis research internship.Python, Django

REFERENCES

- Professor Fabio Galasso [PhD supervisor, Master Thesis Advisor, co-author] – Sapienza University of Rome: Computer Science Dept., galasso@di.uniroma1.it
- Additional references will be provided upon request.