Quentin Guimard, Ph.D.

Computer Vision Researcher | Trustworthy AI

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Summary

Computer Vision Researcher (PhD + 2 years exp.) specializing in **Trustworthy AI**. Author at **CVPR 2025/2026** and Best Paper Awardee at ACM MMSys 2022. Current work focuses on auditing foundation models (Video LLMs), mitigating biases through interpretability, and tracking complex physical object transformations. Demonstrates scientific autonomy through collaborative projects (B-FAIR, ARCHYTAS, VideoLINCS) and co-supervision of 2 PhDs, combining academic rigor with applied industry experience (**Thales**) to build robust, fair, and transparent AI systems.

Research Experience

- **University of Trento** [🌐] *Mar. 2024 - Present*
  Postdoctoral Researcher | *Multimedia and Human Understanding Group (MHUG)* Trento, Italy
  - **Collaborative Projects (B-FAIR, ARCHYTAS, VideoLINCS):** Benchmarked models on embedded systems, optimized video tracking with foundation models, and developed frameworks for bias discovery and mitigation.
  - **Trustworthy AI & Fairness:** Proposed C2B (CVPR 2025) for unsupervised bias detection in image classifiers, and developed SEM (CVPR Findings 2026) for post-hoc bias mitigation in vision-language models.
  - **Visual Understanding & Auditing:** Modeling the tracking of complex physical object transformations. Building benchmarks to evaluate the safety and reasoning limits of video LLMs.
  - **Supervision:** Co-supervising **2 PhDs** on efficient foundation models and robust multimodal AI.
  - **Grants & Compute Allocations:** Co-authored a tech transfer proposal (80k€) aimed at increasing the Technology Readiness Level (TRL) of a training-free, LLM-based video anomaly detector. Secured 250k+ GPU hours on the Leonardo supercomputer via CINECA ISCRA B & C grants.

- **Centrum Wiskunde & Informatica (CWI)** [🌐] *Apr. 2023 - Jun. 2023*
  Visiting Researcher | *Distributed & Interactive Systems Group (DIS)* Amsterdam, Netherlands
  - Conducted research on multimodal prediction (head motion + 360° video content + emotions) for VR.
  - Secured a competitive CWI Internship Grant.

- **University of Florence** [🌐] *Jul. 2021*
  Visiting Researcher | *Media Integration and Communication Center (MICC)* Florence, Italy
  - Collaborated on variational trajectory prediction, leading to the **Best Paper Award** at MMSys 2022.

- **Laboratory of Computer Science, Signals and Systems of Sophia Antipolis (i3S)** [🌐] *Oct. 2020 - Dec. 2023*
  Doctoral Researcher (Ph.D.) | *CNRS and Université Côte d'Azur* Sophia Antipolis, France
  - **Thesis:** "Deep learning for adaptive 360° video streaming".
  - **Best Paper Award (ACM MMSys 2022):** Developed DVMS, a variational framework for uncertainty-aware trajectory prediction in VR.
  - Taught 200+ hours (Machine Learning, Algorithms) to Engineering & Master students.

- **Thales Services** [🌐] *Sep. 2019 - Sep. 2020*
  Junior Data Scientist (Apprenticeship) | *Data Team* Sophia Antipolis, France
  - Developed unsupervised ML models for user profiling and time-series forecasting.
  - Delivered rapid proofs-of-concept (PoC) and dashboard visualizations for internal clients.

- **Université du Québec à Montréal (UQAM)** [🌐] *Jul. 2019 - Aug. 2019*
  Research Assistant (Internship) Montreal, Canada
  - Conducted research on the automated classification of security-relevant bug reports.

Education

- **Université Côte d'Azur** *2020 - 2023*
  Ph.D. in Computer Science | *Funding: MESR Doctoral Contract* Nice, France
  - Thesis: "Deep learning for adaptive 360° video streaming". (Advisor: Prof. L. Sassatelli)

- **Polytech Nice Sophia / Université Côte d'Azur** *2017 - 2020*
  Double Degree: Diplôme d'Ingénieur & M.Sc. in Computer Science Nice, France
  - Specialization: Data Science. **Highest Honors** (Mention Très Bien). Rank: 2/13.

PUBLICATIONS

International Journals

[J.1] **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. **(JCR Q1, Impact Factor: 6.0)**

International Conferences

[C.1] **Q. Guimard***, F. Bartsch*, S. Caldarella, R. Aljundi, E. Ricci, M. Mancini. SEM: Sparse Embedding Modulation for Post-Hoc Debiasing of Vision-Language Models. *Findings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (**CVPR Findings**), 2026.

[C.2] **Q. Guimard**, M. D'Incà, M. Mancini, E. Ricci. Classifier-to-Bias: Toward Unsupervised Automatic Bias Detection for Visual Classifiers. *IEEE/CVF Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2025. **(CORE A*)**

[C.3] **Q. Guimard**, L. Sassatelli. SMART360: Simulating Motion prediction and Adaptive bitRate sTrategies. *ACM Multimedia Systems Conference* (**MMSys**), 2023. **(CORE A)**

[C.4] **Q. Guimard**, F. Robert, C. Bauce, A. Ducreux, L. Sassatelli, H.-Y. Wu, M. Winckler, A. Gros. On the link between emotion, attention and content in virtual immersive environments. *IEEE International Conference on Image Processing* (**ICIP**), 2022. **(CORE B)**

[C.5] **Q. Guimard***, F. Robert*, C. Bauce, A. Ducreux, L. Sassatelli, H.-Y. Wu, M. Winckler, A. Gros. PEM360: A dataset of 360 videos with continuous physiological measurements. *ACM Multimedia Systems Conference* (**MMSys**), 2022. **(CORE A)**

[C.6] **Q. Guimard**, L. Sassatelli, F. Marchetti, F. Becattini, L. Seidenari, A. Del Bimbo. Deep Variational Learning for Multiple Trajectory Prediction. *ACM Multimedia Systems Conference* (**MMSys**), 2022. **(CORE A, Best Paper Award)**

International Workshops

[W.1] **Q. Guimard**, L. Sassatelli. Effects of emotions on head motion predictability in 360 videos. *International Workshop on Immersive Mixed and Virtual Environment Systems* (**MMVE**), 2022.

INVITED TALKS

- **Oct. 2025:** Joint Workshop Univ. of Trento & Univ. of Tübingen (Scalable Trustworthy AI Group). Title: "From Unsupervised Detection to Zero-Shot Mitigation: Addressing Bias in Vision Models".
- **May 2025:** Computer Vision Trento Symposium (CVTS). Title: "Classifier-to-Bias: Toward Unsupervised Automatic Bias Detection for Visual Classifiers".

TECHNICAL SKILLS

- **AI & Vision:** PyTorch, Transformers (LLMs/VLMs), Sparse Autoencoders, VAE, Diffusion Models, OpenCV
- **Development:** Python, Java, C/C++, SQL, Pandas, NumPy, Git, Docker, Linux, HPC (Slurm)
- **Languages:** French (Native), English (C2 - Fluent), Italian (B1)

SUPERVISION & MENTORING

- **PhD Co-Supervision** *2025 - Present*
  University of Trento
  - **Davide Gardenal:** "Efficient Foundation Models for Resource-Constrained Visual Understanding".
  - **Federico Bartsch:** "Architectures for Robust Multimodal AI".
- **Master Students** *2021 - 2025*
  University of Trento & Université Côte d'Azur
  - **Federico Bartsch** (Thesis, Univ. Trento, 2025): "Debiasing Vision-Language Models with Sparse Autoencoders".
  - **Davide Cerpelloni** (Research Project, Univ. Trento, 2025): "LLM-based Prompt Rewriting for Safe and Semantically Faithful Image Generation".
  - **Franz Franco Gallo** (Thesis, Univ. Côte d'Azur, 2022): "Deep learning for multiple prediction of head motion".
  - **Hugo Bell** (Thesis, Univ. Edinburgh, 2021): "Deep learning for human head motion prediction with confidence".

ACADEMIC SERVICE

- **Program Committee:** ELLIS PhD Program (Pre-screening Committee, 2025)
- **Conference Reviewing:** NeurIPS (2026), IEEE/CVF CVPR (2025, 2026), ACM Multimedia (2021), ACM MMSys (2023), ACM ICMR (2025)
- **Journal Reviewing:** ACM TOMM, IEEE Access