

Francisco Caetano

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Currently pursuing a PhD at the Eindhoven University of Technology. I hold a BSc and an MSc from FEUP. My research focuses on practical, deployable generative solutions for image generation and editing, domain adaptation, and out-of-distribution detection, to tackle real-world problems in medical imaging.

Education

Eindhoven University of Technology (TU/e) <i>PhD in Generative Modeling</i>	<i>Eindhoven, Netherlands</i> <i>Jan 2024 – Present</i>
○ Under the supervision of dr.ir. Fons van der Sommen (Associate Professor at TU/e)	
Faculty of Engineering of the University of Porto (FEUP) <i>MSc in Electrical Engineering</i>	<i>Porto, Portugal</i> <i>Sep 2020 – Feb 2023</i>
○ Graduated with the thesis Visual Data Processing for Anomaly Detection under the supervision of Prof. Jaime Cardoso (Full Professor at FEUP)	
Chalmers University of Technology <i>Erasmus Exchange</i>	<i>Gothenburg, Sweden</i> <i>Aug 2020 – Jan 2021</i>
Faculty of Engineering of the University of Porto (FEUP) <i>BSc in Electrical Engineering</i>	<i>Porto, Portugal</i> <i>Sep 2017 – Jul 2020</i>

Experience

PhD Candidate and Teaching Assistant <i>Eindhoven University of Technology</i>	<i>Eindhoven, Netherlands</i> <i>Jan 2024 – Present</i>
○ Worked with Healthcare and Automotive Industry partners in the TASTI Project	
○ Co-organized the RARE Challenge at MICCAI 2025	
○ Developed the GenerativeZoo	
Computer Vision Researcher <i>Fraunhofer Portugal AICOS</i>	<i>Porto, Portugal</i> <i>Mar 2023 – Dec 2023</i>
○ Developed algorithms for automatic in-line visual inspection in the semiconductor industry	
Research Assistant <i>INESC-TEC</i>	<i>Porto, Portugal</i> <i>May 2022 – Feb 2023</i>
○ Recognition of in-vehicle human activity with occlusion-handling and video anomaly detection	

Selected Publications

Symmetrical Flow Matching: Unified Image Generation, Segmentation, and Classification with Score-Based Generative Models (2026). **F. Caetano**, C. Viviers, P.H.N. de With, F. van der Sommen. **AAAI 2026**

DisCoPatch: Taming Adversarially-driven Batch Statistics for Improved Out-of-Distribution Detection (2025). **F. Caetano**, C. Viviers, L. Mondragon, P.H.N. de With, F. van der Sommen. **ICCV 2025**

MedShift: Implicit Conditional Transport for X-Ray Domain Adaptation (2025). **F. Caetano**, C. Viviers, P.H.N. de With, F. van der Sommen. **ICCV 2025 (Workshop)**

MedSymmFlow: Bridging Generative Modeling and Classification in Medical Imaging through Symmetrical Flow Matching (2025). **F. Caetano**, L. Abdi, C. Viviers, A. Valiuddin, F. van der Sommen. **MICCAI 2025 (Workshop)**

For a full list of publications, please check [Google Scholar](#) or my [Personal Page](#)