FILIPPO BOTTI

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SUMMARY

PhD student in Deep Learning focusing on generative models, image-to-image translation, and efficient neural architectures for computer vision. Author of peer-reviewed publications at international venues including WACV and CVPR Workshops, with recent work on state space models (Mamba) for style transfer and diffusion acceleration. Strong experience in PyTorch-based research pipelines, experimental evaluation, and efficiency/accuracy trade-offs. Looking for a Research Internship in Generative AI and Vision.

EDUCATION

- **PhD student in Information Technology** 2023 - Present (Exp. Grad. October 2026)
  Università degli studi di Parma
  Parma, Italy
  Research focus: Deep Learning, Generative AI, Style Transfer, Efficient Models
  Supervisor: Prof. Andrea Prati
- **DeepLearn Summer School** July 2024
  University of Maya
  Porto, Portugal
  Description: Research training event with a global scope aiming at updating participants on the most recent advances in the critical and fast developing area of deep learning
- **Computer Engineering M.Sc.** 2021 - 2023
  Università degli studi di Parma
  Parma, Italy
  Graduated with 110/110 cum laude
  Thesis: "Unsupervised subject segmentation for accurate image-to-image translation"
- **Computer Engineering B.Sc.** 2017 - 2021
  Università degli studi di Parma
  Parma, Italy
  Graduated with 110/110 cum laude
  Thesis: "Attention transfer for Cycle Consistent Generative Adversarial Networks"
- **Technical High School Diploma (ITIS) "Electrical Engineering and Automation"** 2012 - 2017
  Istituto Tecnico Industriale Statale "Leonardo da Vinci"
  Parma, Italy
  Graduated with 100/100

RESEARCH EXPERIENCE

- **PhD Researcher** 2023 – Present
  University of Parma
  Design and evaluation of generative models for image synthesis and image-to-image translation
  Research on efficient vision architectures based on state space models (Mamba)
  Development of PyTorch training pipelines, ablation studies, and performance profiling
  Experience with efficiency–accuracy trade-offs and large-scale experimentation

PUBLICATIONS

- **Mamba-st: State space model for efficient style transfer** 2025
  Filippo Botti, Alex Ergasti, Leonardo Rossi, Tomaso Fontanini, Claudio Ferrari,
  Massimo Bertozzi e Andrea Prati
  2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)
  Code available here

- **Masked Style Transfer for Source-Coherent Image-to-Image Translation** 2024
  Filippo Botti, Tomaso Fontanini, Massimo Bertozzi e Andrea Prati
  Applied Sciences 14 (17)
  Code available here
- **U-shape mamba: State space model for faster diffusion** 2025
  Alex Ergasti, Filippo Botti, Tomaso Fontanini, Claudio Ferrari, Massimo Bertozzi e Andrea Prati
  Proceedings of the Computer Vision and Pattern Recognition Conference (Workshop)
  Code available here

OTHER PUBLICATIONS

- **SISMA: Semantic Face Image Synthesis with Mamba** 2025
  Filippo Botti, Alex Ergasti, Tomaso Fontanini, Claudio Ferrari, Massimo Bertozzi e Andrea Prati
  International Conference on Image Analysis and Processing (ICIAP)
  Code available on request
- **Avoiding shortcuts in unpaired image-to-image translation** 2022
  Tomaso Fontanini, Filippo Botti, Massimo Bertozzi e Andrea Prati
  International Conference on Image Analysis and Processing (ICIAP)
  Code available here

TEACHING

- **Software Lifecycle Management** 2024
  Forma Futuro
  Parma, Italy
  Software Engineering basic course for working students.
- **Introduction to Python programming** 2024
  Fondazione Alma Mater
  Bologna, Italy
  Python course for working students.
- **Tutor for "Object Oriented Programming"** 2023 - Present
  Università degli studi di Parma
  Parma, Italy
  Docente: Prof. Luca Veltri
  Exam practice and tutoring for first-year students (C++)
- **Tutor for "Fundamentals of computer science"** 2022 - 2023/2025 - Present
  Università degli studi di Parma
  Parma, Italy
  Docente: Prof. Michele Tomaiuolo/Prof. Massimo Bertozzi
  Tutoring for first-year students (Python and C++)

TECHNICAL SKILLS

- **Research Areas**: Generative Models, Diffusion Models, Image-to-Image Translation, Style Transfer, Efficient Architectures, State Space Models
- **Frameworks**: PyTorch, Python, C/C++, currently learning CUDA
- **Tooling**: Experiment tracking, performance profiling, Git, UNIX, LaTex