Federico Betti

📱 +393407556910
✉ federico.betti@outlook.com
🌐 federicobetti.github.io
in federico_betti
○ federicoBetti

Professional Summary

PhD in Computer Science (completing Jan 2026) and Senior AI Engineer with 5+ years of experience in developing production-ready AI solutions. Specialized in Natural Language Processing, Computer Vision, and Large Language Models. Currently leading NLP development at Y Combinator-backed startup Typewise while collaborating with ETH Zurich. Proven track record in bridging academic research and industry applications, with publications in top-tier conferences including ICCV, ECCV, and ACM Multimedia.

Education

PhD in Computer Science   Nov 2022 – Jan 2026
University of Trento

Alta Scuola Politecnica   2017 – 2019
Politecnico Di Milano

Erasmus Programme   February – July 2018
École polytechnique fédérale de Lausanne, Switzerland

Master Degree in Computer Science and Engineering   2017 – 2019
Politecnico Di Milano, 110L/110

Master Degree in Computer Science and Engineering   2017 – 2019
Politecnico Di Torino

Laurea Triennale in Ingegneria Informatica   2014 – 2017
Politecnico Di Milano, 110/110

Professional Experience

Senior AI Engineer   May 2022 – Present
Typewise - ETH Zurich
Lead NLP Engineer at Typewise (Y Combinator alumni) collaborating with Prof. Ryan Cotterell's lab at ETH Zurich. Architect and develop production-ready **text prediction** and grammar correction systems, strategically balancing computational efficiency with model performance. Spearhead integration of large language models and manage scalable AWS infrastructure serving thousands of users. Recently focused on developing **AI agents for customer care applications** using cutting-edge frameworks. Actively participate in strategic discussions with founding team on product development, business growth, and organizational scaling including talent acquisition.

AI Research Fellow   January 2021 – May 2022
Leonardo Labs
Conducted research and development of advanced AI solutions using the davinci-1 **High Performance Computer**. Specialized in NLP research including Semantic Similarity with Transformers, document retrieval systems, and Sentiment Analysis using PyTorch. Contributed as **Project Manager** for strategic company-internal AI projects, collaborating with cross-functional teams to deliver innovative solutions.

AI Engineer   January 2020 – January 2021
Meta-liquid

Developed and deployed production-ready Deep Learning solutions for **Computer Vision** and NLP using Scala. Successfully adapted cutting-edge neural network architectures from academic research for real-world applications processing image, video, audio, and text data. Collaborated with AImageLab at Unimore, contributing to multiple scientific publications and bridging the gap between academic research and industry applications.

Data Scientist   August 2019 – December 2019
EnergyWay
Developed comprehensive data analysis and management solutions for NLP applications using Python ecosystem (Pandas, PyTorch, Sklearn, Scipy). Architected and implemented **AWS cloud** infrastructure for model training, execution, data storage and process automation. Collaborated with Innovation Center of major Italian media company to deliver scalable AI solutions.

Research Publications

What Changed? Detecting and Evaluating Instruction-Guided Image Edits with Multimodal Large Language Models   2025
*L Baraldi, D Bucciarelli, F Betti, M Cornia, L Baraldi, N Sebe, R Cucchiara, **ICCV 2025***

Optimizing Resources in Diffusion Models through Hallucination Early Detection   2024
*F Betti, L Baraldi, L Baraldi, R Cucchiara, N Sebe, **ECCV 2024***

Let's ViCE! Mimicking Human Cognitive Behavior in Image Generation Evaluation   2023
*F Betti, J Staiano, L Baraldi, L Baraldi, R Cucchiara, N Sebe, **ACM Multimedia 2023***

Controlled Text Generation using Adversarial Networks   2020
*F Betti, G Ramponi, M Piccardi, **INLG 2020***

Technical Skills

AI/ML Frameworks (Expert): PyTorch, TensorFlow, Transformers, LangChain, Diffusion Models

Programming Languages (Advanced): Python, Scala, Java, C, SQL, HTML, CSS

Programming Languages (Intermediate): CUDA, C++, Matlab, R, Ruby, Assembly

Cloud & Infrastructure: AWS (EC2, S3, Lambda), MLOps, Docker, Kubernetes, HPC Systems

AI Specializations: Natural Language Processing, Computer Vision, Large Language Models, Generative AI, AI Agents

Development & Tools: Software Development, Web Development, Linux OS, Git, Agile Frameworks

Leadership & Management: Project Management, Team Leadership, Product Development, Strategic Planning, Cross-functional Collaboration

Additional Experiences

SEI Pioneer   2018 – 2019
Fondazione Agnelli, Alta Scuola Politecnica
Participated in prestigious Alta Scuola Politecnica entrepreneurship program focused on developing high-tech products under industry mentorship. Gained comprehensive experience in startup development, business strategy, and **entrepreneurial principles**, shaping a strong product-oriented mindset for innovative solution development.

Knowai: Knowledge Extraction from Conversations using NLP   September 2018 – June 2019
Fondazione Agnelli
Co-founded and led technical development of proto-startup in collaboration with SEI Pioneer project. Developed advanced NLP solutions for extracting insights from internal company communications, attracting significant interest from investors and enterprise clients. Applied cutting-edge text mining and web development technologies.

Polimi Data Scientists - Board Member   2018 – 2019
Politecnico di Milano
Served on executive board of prominent student organization, organizing high-impact Data Science events with industry leaders. Built strategic partnerships and fostered knowledge exchange in emerging AI/ML fields within academic community.

Languages

Italian: Mother Tongue

English: Professional Knowledge   *IELTS Test 2016*

Interests

Innovation and Startup: I have completed MBA-like courses with ASP and Fondazione Agnelli, cultivating an entrepreneurial mindset that, when combined with my technical expertise, inspires my pursuit of innovative yet tangible solutions. Currently working within a Y Combinator-backed startup, my interests in emerging technologies continue to grow. I also maintain my knowledge base and stay current with industry trends through extensive reading.

Technology: Since a young age, I have been fascinated by new technology trends. More recently, I've focused on non-professional drone flight.

Sport: I have played football and basketball since young age and I still play them together with friends. I consider them a fantastic approach to know new people in different contexts.