

Tommaso Calò

✉ tommaso.calo@polito.it

🌐 tommasocalo.github.io

☎ +39 340 288 2547

📍 Turin, Italy

RESEARCH STATEMENT

My research aims to **democratize advanced AI tools** by bridging Human–Computer Interaction, visual programming, and program synthesis. I develop intuitive authoring environments, including sketch-to-code systems, multimodal design tools, and AI-powered educational interfaces, **enabling non-experts to harness complex technologies effortlessly**. My ongoing goal is to create adaptive, transparent AI interactions that empower users, fostering widespread computational creativity and narrowing the digital divide.

LATEST & GREATEST PUBLICATIONS

Advancing Code Generation from Visual Designs through Transformer-Based Architectures and Specialized Datasets

PACM-HCI: Proceedings of the ACM on Human-Computer Interaction

<https://dx.doi.org/10.1145/3734190>

Investigating How Computer Science Researchers Design Their Co-Writing Experiences With AI

CHI 2025 - ACM Conference on Human Factors in Computing Systems

<https://doi.org/10.1145/3706598.3713205>

DeepFlow: A Flow-Based Visual Programming Tool for Deep Learning Development

IUI 2025 - ACM International Conference on Intelligent User Interfaces

<https://doi.org/10.1145/3708359.3712109>

Enhancing Smart Home Interaction through Multimodal Command Disambiguation

Personal and Ubiquitous Computing - Springer Journal

<https://doi.org/10.1007/s00779-024-01827-3>

EDUCATION

Ph.D. in Artificial Intelligence

National Program, Politecnico di Torino

Nov 2021 – Nov 2024

Turin, Italy

- ▶ Dissertation on UI modeling and AI-assisted End-User Development
- ▶ Published at top-tier venues: CHI, IUI, PACM, and PUC

M.Sc. in Data Science and Engineering

Politecnico di Torino

Sep 2019 – Oct 2021

Turin, Italy

- ▶ Focus on machine learning and data analysis
- ▶ GPA: 3.9

B.Sc. in Engineering Management

Politecnico di Torino

Sep 2015 – Mar 2019

Turin, Italy

- ▶ Specialized in operations research and optimization

PROFESSIONAL EXPERIENCE

Visiting Scholar

Georgia Institute of Technology

Feb 2024 – Jul 2024

Atlanta, USA

- ▶ Conducted research on human-like learning in AI systems under Prof. Christopher MacLellan
- ▶ Developed novel approaches for educator-driven intelligent tutoring systems, published paper at L@S 2024 on AI-assisted tutor authoring

Python Programming Instructor

ITS Foundation

Sep 2023 – Dec 2023

Turin, Italy

- ▶ Taught Python programming to 30 students with aerospace/mechatronics focus

Teaching Assistant - Computer Vision

Politecnico di Torino

Feb 2023 – Jul 2023

Turin, Italy

- ▶ Led 12 hands-on labs for 80 students on algorithm implementation and ML integration

Teaching Assistant - Human Computer Interaction

Politecnico di Torino

Sep 2022 – Present

Turin, Italy

- ▶ Guide 50+ students annually in developing and evaluating AI-driven user interfaces

AWARDS & HONORS

- ▶ **Top 5% Finisher** - Ibiza Half Marathon (2025)
- ▶ **3rd Place** - Winter Sailing Championship (2024)
- ▶ **PhD Scholarship** - Three-year merit-based (2021)
- ▶ **1st Place** - PwC Cybersecurity Challenge (2020)
- ▶ **1st Place** - FSAE Italy Electric Category (2019)
- ▶ **Top 10** - High School Mathematics Competition (2015)
- ▶ **Exchange Student** - Ranked in Top 5% in Mathematics at Sydney High School (2014)

SELECTED PUBLICATIONS

- ▶ **Towards Step-Aware ITSs: Generation and Evaluation of Synthetic Step-by-Step Exercise Solutions.** F Russo, T Calò, L De Russis. *L@S'25: Proceedings of the Twelfth ACM Conference on Learning@Scale* (2025)
- ▶ **Evaluating Visual Prompting Modalities for Generative AI-Assisted UI Design.** T Calò, L De Russis. *IS-EUD'25: International Symposium on End User Development* (2025)
- ▶ **Bridging Web and Figma: Automating Large-Scale UI Dataset Generation for AI-Enhanced Design.** F Russo, T Calò, L De Russis. *EICS'25: The 17th ACM SIGCHI Symposium on Engineering Interactive Computing Systems* (2025)
- ▶ **Beyond Final Answers: Evaluating Large Language Models for Math Tutoring.** A Gupta, J Reddig, T Calò, D Weitekamp, CJ MacLellan. *AIED'25: Artificial intelligence in education: 26th international conference* (2025)
- ▶ **Towards Educator-Driven Tutor Authoring: Generative AI Approaches for Creating Intelligent Tutor Interfaces.** T Calò, C Maclellan. *L@S'24: Proceedings of the Eleventh ACM Conference on Learning at Scale*, 305-309 (2024)
- ▶ **Leveraging Large Language Models for End-User Website Generation.** T Calò, L De Russis. *IS-EUD'23: International Symposium on End User Development*, 52-61 (2023)
- ▶ **Style-Aware Sketch-to-Code Conversion for the Web.** T Calò, L De Russis. *EICS'22: Companion of the 2022 ACM SIGCHI Symposium on Engineering Interactive Computing Systems* (2022)
- ▶ **Creating Dynamic Prototypes from Web Page Sketches.** T Calò, L De Russis. *PAINT'22: Proceedings of the 1st ACM SIGPLAN International Workshop on Programming Abstractions and Interactive Notations, Tools, and Environments* (2022)
- ▶ **Generating Comparative Explanations of Financial Time Series.** J Fior, L Cagliero, T Calò. *ADBIS'22: European Conference on Advances in Databases and Information Systems* (2022)

CERTIFICATIONS & LANGUAGES

- ▶ **TOEFL iBT:** 98/120 (C1 Level)
- ▶ **English:** Fluent (C1)
- ▶ **Italian:** Native