

tommaso guidi

raised in florence, based in siena (italy)



phd candidate in smart computing (39th cycle, university of florence, joint program with pisa and siena), doing research at sailab, the siena artificial intelligence lab, under the supervision of marco gori, within the collectionless ai team. my work is about learning over time: recurrent models, state-space dynamics and collectionless ai, aiming at agents that learn from their environment without collecting data. in spring 2026 i was a visiting researcher at tu darmstadt, in kristian kersting's ai & ml lab. before the phd: msc in artificial intelligence and automation engineering in siena (110/110 cum laude, thesis on instance-level recognition), bsc in electronics and telecommunications engineering in florence (thesis on hieroglyph segmentation with deep neural networks), research internships at ifac-cnr on ai for medical imaging and cultural heritage, and two years as ai engineer at aigea, developing the deep learning engine of deepmammo for breast cancer detection in screening mammography. co-founder of unaiverse, a peer-to-peer network for human-ai agents.

■ working experience

- 2026– **co-founder · unaiverse** ↗
peer-to-peer network for human-ai agents.
- 2025– **research fellow · diism, università degli studi di siena**
research fellowship on the theory of learning and reasoning without access to data (project constr, fair extended partnership, pnrr), renewed in 2026.
- 2023 **research collaborator · ifac-cnr, istituto di fisica applicata nello carrara**
navigator project (funded by regione toscana): computer aided detection of cancer in medical imaging.
- 2022–2024 **ai engineer · aigea s.r.l.**
development of the deepmammo model for breast cancer detection in screening mammography.
- 2021–2022 **research intern · ifac-cnr, istituto di fisica applicata nello carrara**
ai applications in medical imaging (cad of kidney, lung and prostate cancer) and in cultural heritage.

■ research & education

- 2023– **phd, smart computing (xxxix ciclo)** ↗
università degli studi di firenze
joint program with pisa and siena; research at sailab (university of siena), supervisor marco gori.
↳ visiting researcher, tu darmstadt, aiml lab (kristian kersting), may–jul 2026 ↗
- 2021–2023 **msc, artificial intelligence and automation engineering**
università degli studi di siena · 110/110 cum laude
thesis: pitfalls in instance level recognition
- 2017–2021 **bsc, ingegneria elettronica e delle telecomunicazioni**
università degli studi di firenze · 108/110
thesis: hieroglyph segmentation with deep neural networks
- 2012–2017 **maturità scientifica**
liceo scientifico niccolò rodolico, firenze · 100/100

■ publications

- 2026 **book your room in the turing hotel! a symmetric and distributed turing test with multiple ais and humans** ↗
c. di maio, **t. guidi**, l. quarantiello, j. bell, m. gori, s. melacci, v. lomonaco · arxiv:2603.18981
- 2026 **perpetual generation: online learning of linear state-space models from a single stream** ↗
m. casoni, **t. guidi**, s. melacci, a. betti, m. gori · icann 2025 (springer)
- 2025 **unaiverse: a peer-to-peer network for human-ai agents** ↗
s. melacci, c. di maio, **t. guidi**, m. gori · preprint

- 2025 **a unified framework for neural computation and learning over time** ↗
s. melacci, a. betti, m. casoni, **t. guidi**, m. tiezzi, m. gori · ecai workshop ml meets differential equations (pmlr)
- 2025 **generative system dynamics in recurrent neural networks** ↗
m. casoni, **t. guidi**, a. betti, s. melacci, m. gori · ijcn 2025
- 2025 **back to recurrent processing at the crossroad of transformers and state-space models** ↗
m. tiezzi, m. casoni, a. betti, **t. guidi**, m. gori, s. melacci · nature machine intelligence 7(5)
- 2024 **on the resurgence of recurrent models for long sequences: survey and research opportunities in the transformer era** ↗
m. tiezzi, m. casoni, a. betti, **t. guidi**, m. gori, s. melacci · arxiv:2402.08132
- 2024 **hyperspectral imaging and convolutional neural networks for augmented documentation of ancient egyptian artefacts** ↗
c. cucci, **t. guidi**, m. piccolo, l. stefani, l. python, f. argenti, a. barucci · heritage science 12(1)
- 2024 **pitfalls in processing infinite-length sequences with popular approaches for sequential data** ↗
m. casoni, **t. guidi**, m. tiezzi, a. betti, m. gori, s. melacci · annpr 2024 (springer)
- 2023 **egyptian hieroglyphs segmentation with convolutional neural networks** ↗
t. guidi, l. python, m. forasassi, c. cucci, m. franci, f. argenti, a. barucci · algorithms 16(2)
- 2022 **ancient egyptian hieroglyphs segmentation and classification with convolutional neural networks** ↗
a. barucci, c. canfailla, c. cucci, m. forasassi, m. franci, g. guarducci, **t. guidi**, m. loschiavo, m. piccolo, r. pini, l. python, s. valentini, f. argenti · florence heri-tech 2022 (springer ccis)

■ skills & languages

python · go · c · matlab · html/css/javascript
git · jupyter · linux · self-hosted infrastructure — deep learning · sequence models / state-space models
· medical imaging (dicom) · computer vision · data analysis
italian (native) · english (advanced)