



Guglielmo Gemignani

Head of Robotic Integration

PROFILE

A robotics and AI expert with over a decade of hands-on experience in robotics and more than five years of leading engineering teams. Holds a PhD in Robotics and Artificial Intelligence, showcasing a solid foundation in both technical and leadership domains. Recognized for strong technical expertise and effective interpersonal skills, with a proven track record of innovation demonstrated through 20+ academic publications and four patents.

WORK EXPERIENCE

Head of Robotic Integration

Aug 2023 – Present

Magazino – a Jungheinrich Company | Munich

- Disciplinary supervisor and technical lead for a team of 20+ developers across two companies.
- Responsible for robot architecture design, behavior development, robot simulators, and product quality assurance.
- Focus on developing high-level software for autonomous robots, including [TORU](#), [SOTO](#), and [Jungheinrich's EAFa](#).

Keywords: SCRUM, SAFe, Product Owner, Product Requirements, Behavior Trees, ROS, Unity, Testing Strategy

Head of Robotic Integration

Mar 2023 – Aug 2023

Magazino GmbH | Munich

- Led a team of 15+ developers as the disciplinary supervisor and technical lead, successfully steering the robot architecture design, behavior development, simulation, and product QA.
- Managed and enhanced a commercial Behavior Tree-based framework, adopted by multinational companies for autonomous robot behavior development, contributing to the successful acquisition of the company.
- Fostered innovation and collaboration within the team to deliver cutting-edge autonomous robotics solutions.

Keywords: VDA5050, Integrator CLI, SW & HW QA, Gazebo, GitLab, Docker, Podman, Behavior Trees.

Team Lead Behaviors & Reasoning

Jan 2018 – Mar 2022

Magazino GmbH | Munich

- Supervised a multidisciplinary team, specializing in robot behavior development, data analysis, and software QA.
- Directed the team's contributions to the successful development and launch of three innovative products: [TORU](#), [SOTO](#), [ACROS.AI](#).
- Ensured the delivery of high-quality software through robust testing, analysis, and agile development practices.

Keywords: Behavior trees, Automated planning, SW QA, Gazebo, Buildbot, Data Analysis, Pandas, Jupyter, GCP.

CONTACT

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🌐 [g-gemignani.github.io](https://github.com/g-gemignani)

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EDUCATION

PhD Visitor

- Carnegie Mellon University
CORAL Laboratory, 2014–2015

PhD in Robotics and Artificial Intelligence

- Sapienza, University of Rome
Thesis: Acquiring Knowledge Through Multi-Modal Human-Robot Interaction, 2012–2016

Laurea Magistrale in Electronic Physics

- Sapienza, University of Rome
Thesis: Study of the Readout System of a Microcapillary Position Detector Filled with Scintillating Liquid, 2010–2012

Laurea Triennale in Physics

- Università degli studi di Pisa
Thesis: Numerical Solution of the Unidimensional Schrödinger Equation, 2007–2010

LANGUAGES

Italian	● ● ● ● ●
English	● ● ● ● ●
German	● ● ● ● ●
French	● ● ● ● ●

SKILLS

- Agile Development
- Nonviolent Communication
- Effective Leadership
- Python
- C++
- Prolog
- ROS

ADDITIONAL EXPERIENCE

- Author, maintainer and contributor of various open and closed source projects
Repositories: [ros/diagnostics](#), [UP4ROS2](#), [pyswip](#), [PetriNetPlans](#), [ros/geometry2](#), [behavior_trees](#), [robot_state_reasoning](#), [topological_graph_planner](#), and others.
- European Project Reviewer
Project: [SciRoc](#) (EU-H2020)
- SPC, PC and Reviewer for various international conferences
Conferences: IJCAI, ECAI, AI*IA, and others.
- International Research Project Contributor
Projects: AIPlan4EU (EU-H2020 funded project), RoboDevOps (Bavarian funded project)
- Robocup 2013: Team Leader and coordination and behaviors developer of the SPQR team
Achieved 1st place at Iran Open 2013 & 3rd place at German Open 2013

Senior Robotics Software Engineer Magazino GmbH | Munich

Feb 2017 – Jan 2018

- Led the development of behaviors, navigation, and deployment for [TORU](#), a state-of-the-art autonomous robot.
- Contributed to TORU's recognition as Best ROS-Based Product in 2020 and Best Product at LogiMAT in 2018.
- Played a key role in advancing TORU's capabilities, driving its adoption in commercial and industrial applications.

Keywords: ROS, Behavior Trees, Django, Diagnostics, Prolog, Error modeling and Handling.

Robotics Software Engineer Magazino GmbH | Munich

Nov 2015 – Feb 2017

- Developed advanced navigation algorithms and behaviors for autonomous robots.
- Optimized robotic systems for improved performance, reliability, and adaptability in dynamic environments.

Keywords: ROS, Move Base, Topological Graph Planner, NetworkX, Django, Behavior Trees.

SELECTED PUBLICATIONS

Patents

- *Testbench for robot behavior trees.* **G. Gemignani**, M. Maerz, C. Ngan. European Patent and Trademark Office, filed on May 7th, 2024.
- *Tasking robots using a job data structure.* **G. Gemignani**, R. Mansilla Martin, M. Grimm M. Maerz, M. Tenorth, C. Ngan. European Patent and Trademark Office, filed on May 7th, 2024.
- *Capabilities for error categorization, reporting and introspection of a technical apparatus.* **G. Gemignani**, M. Grimm, M. Tenorth. European Patent and Trademark Office, filed on August 8th, 2021.
- *Controlling an apparatus, e.g., a robot, with a behavior tree.* **G. Gemignani**. European Patent and Trademark Office, filed on February 4th, 2021.

Papers

- *Planning for Automated Testing of Implicit Constraints in Behavior Trees.* U. Köckemann, D. Calisi, **G. Gemignani**, J. Renoux, and A. Saffiotti. International Conference on Automated Planning and Scheduling, ICAPS 2023.
- *Dialogue with Robots to Support Symbiotic Autonomy.* A. Vanzo, D. Croce, E. Bastianelli, **G. Gemignani**, R. Basili, D. Nardi. Dialogues with Social Robots, pp. 331-342, 2017.
- *Living with Robots: Interactive Environmental Knowledge Acquisition.* **G. Gemignani**, R. Capobianco, E. Bastianelli, D. D. Bloisi, L. Iocchi, D. Nardi. Robotics and Autonomous Systems, RAS 2016.
- *Multi-Robot Search for a Moving Target: Integrating World Modeling, Task Assignment and Context.* F. Riccio, E. Borzi, **G. Gemignani**, and D. Nardi. International Conference on Intelligent Robots and Systems, IROS 2016. RoboCup Best Paper Award.

[...full list of publications](#)