

Giuseppe Gillini

Software Architect — Chief Technology Officer — Ph.D. in Engineering

giusepegillini.it

LinkedIn: /in/giusepegillini

Email: gillinigiuseppe@gmail.com

Mobile: +39 3804794231

GitHub: DoppiaG93

Google Scholar: Profile

KEY ACHIEVEMENTS

- Designed and developed a high-performance web platform capable of interactively visualizing Parquet datasets containing more than 1 billion data points.
- Developed validation and visualization software supporting large-scale L2+/L3 autonomous driving programs.
- Reduced AWS infrastructure costs by up to 75% through architectural redesign, service optimization and the removal of unnecessary cloud dependencies.
- Improved development efficiency by introducing fully local development environments and simplifying deployment and testing workflows.

TECHNICAL SKILLS

- **Programming Languages:** TypeScript, Python, C++, Dart, Swift, Kotlin, SQL
- **Frameworks & Libraries:** Angular, React, Flutter, Three.js
- **Cloud & DevOps:** AWS, Docker, Kubernetes, Firebase
- **Robotics & AI:** Autonomous Systems, Sensor Fusion, Brain-Computer Interfaces, Shared Autonomy, Point Cloud Processing
- **Testing:** Playwright, Karma, Jasmine
- **Data & Scientific Computing:** Signal Processing, Data Analysis, Numerical Simulations

EXPERIENCE

EveryBotics Srl

Chief Technology Officer

Italy

2021 – Present

- **Software Architecture** Architected scalable software systems ranging from autonomous driving visualization platforms to cloud-native industrial applications, balancing performance, maintainability and deployment efficiency.
- **BMW Autonomous Driving** Developed high-performance visualization software for large-scale point cloud, camera and vehicle odometry datasets, enabling interactive analysis and validation of L2+/L3 autonomous driving systems.
- **Cloud Engineering** Redesigned cloud architectures and deployment strategies, reducing infrastructure costs by up to 75% while improving scalability and simplifying operations.
- **Developer Tooling** Built local-first development workflows and reusable infrastructure tooling that drastically reduced deployment overhead and accelerated developer iteration cycles.
- **Technical Leadership** Defined technical strategy, reviewed software architecture, mentored engineers and coordinated multidisciplinary projects across robotics, AI and cloud platforms.

University of Cassino (UNICAS)

Postdoctoral Research Fellow

Italy

2021 – 2023

- **Shared Autonomy Research** Conducted research on assistive and collaborative robotics, designing shared autonomy architectures for human-robot interaction.
- **Brain-Computer Interfaces** Developed EEG-based shared control systems integrating human intention decoding with autonomous robotic behaviors.
- **European Research Projects** Contributed to collaborative European research initiatives in robotics, intelligent systems and human-centered AI.

German Aerospace Center (DLR)

Guest Researcher

Germany

2019 – 2020

- **Brain-Computer Interfaces** Developed BCI systems for robotic control using SSVEP and P300 paradigms.
- **System Integration** Integrated EEG acquisition systems with robotic manipulation platforms.

- **Signal Processing** Implemented real-time signal processing pipelines enabling robotic actuation from neural signals.

ENEL

Trainee Engineer

Italy

2017

- **Industrial Automation** Contributed to automation redesign of hydroelectric generating units.
- **Technical Coordination** Performed asset evaluation and coordinated with engineering partners.

PROJECTS

ctxmem (Open Source) GitHub • PyPI

Designed a Git-native, local-first project memory system for AI coding agents, enabling persistent and shareable project knowledge across development sessions.

PointDrive (Open Source) GitHub

Developed a browser-based visualization platform for interactive exploration of Parquet datasets containing more than one billion data points, enabling real-time analysis of large-scale point cloud data.

Infraify (Open Source) GitHub

Developed a local-first toolkit for AWS-compatible development environments, enabling developers to emulate cloud services locally using containerized infrastructure.

Shared Autonomy Robotics Framework Developed human-in-the-loop robotic control architectures integrating machine learning, real-time perception and Brain-Computer Interfaces. Designed ROS-based systems supporting shared autonomy and intelligent decision-making.

Industry 4.0 Cloud Platforms Delivered production-grade web, mobile and cloud solutions, including React dashboards, iOS/Android applications and industrial monitoring systems, enabling machine telemetry, operational analytics and predictive maintenance workflows.

EDUCATION

EC-Council

Certified Ethical Hacker (CEH)

Online

2023

University of Cassino

Ph.D. in Engineering

Italy

2017 – 2020

- **Shared Control Architecture** Designed a shared-control system for robotic manipulators driven by motor imagery EEG signals.
- **Hierarchical Control** Developed control strategies enabling multiple autonomy levels based on task phase and user intention.

University of Cassino

M.Eng. in Computer Engineering, magna cum laude

Italy

2015 – 2017

University of Cassino

B.Eng. in Computer Engineering

Italy

2012 – 2015

AWARDS

IEEE SMC Best Student Paper Award Finalist

LANGUAGES

English – Professional

Italian – Native