	Professional Experience 🗱
Apple Inc., USA	Senior Software Engineer, April 2025 - present.Design and development of network frameworks for device connectivity.
ProperData, University of California, Irvine, USA	 Project Scientist, August 2023 - April 2025. Led, designed, and coded in Python an IoT device testbed; coordinated using SCRUM/Agile practices; Led a project on smart glasses privacy, focusing on Bluetooth LE communication and traffic sniffing; Led a project on audio advertisement classification robust to adversarial attacks.
Hamilton Medical, Switzerland	 Team Lead for IoT/IoMT, January 2023 - July 2023. Led, designed, and coded in C/C++ a platform for real-time processing of data from medical devices to the cloud; Led a team of other three engineers with SCRUM/Agile practices;
	 Software Engineer for IoT/IoMT, April 2022 - January 2023. Designed and coded user space applications in C/C++ for Yocto/Open embedded medical devices; Designed and coded linux device drivers for connectivity (NFC, through I2C) and automation (USB); Maintained a u-boot distribution for medical devices and its device tree; Led and performed the migration of the team code base from SVN to git.
Wireless IoT	Postdoctoral Research Associate , October 2020 - March 2022.
Northeastern University, USA	 Led, designed and coded in Fython/Fytorch a whereas waveform classifier for 5G (5GFF) and wiFf (802.11g); Implemented seamless inter-cell handovers for 5G base stations on srsRAN in C/C++; Fixed packet loss in the linux driver of OpenWiFi due to ACK package delay in the Colosseum testbed; Prototyped smart 5G base stations, sensing the wireless spectrum and switching operating frequencies. Awarded with a best paper award at the IEEE International Conference on Computer Communications 2022.
MindMaze, France	 Research and Development Engineer, October 2019 - February 2020. Designed and implemented in C/C++ an energy saving mechanism for our board based on a STM32 chip; Designed and implemented in C/C++ a CAN bus communication module; Contributed code to the compatibility library mmpack for deployments on both Windows and GNU/Linux systems.
University of Trento, Italy	 Postdoctoral Researcher, May 2018 - September 2019. Maintained and released a distributed platform in C/C++ and Javascript, PeerStreamer-ng, for live video streaming. Led the test deployment of our video platform in one of the largest European wireless community networks, AWMN; Proposed a dynamic topology optimization for mesh networks with proved guarantees on maximum reception delay for live streaming. Developed a BGP autonomous system graph generator. Contributed code to NetworkX Python library (ver. 2.4).
	 PhD. Student, November 2014 - April 2018. Led, designed, and coded a distributed platform in C/C++, PeerStreamer-ng, for live video streaming. Designed and implemented a network emulator in Python and Mininet for Wireless Community Networks; Designed and implemented a discrete-event simulator in C/C++ for real-time streaming applications; Designed and proposed a topology optimization for distributed real-time applications to reduce average reception delay by 60% and packet loss by 50% in simulated networks; Designed a cross-layer optimization to reduce link bottlenecks up to 66% for distributed real-time applications.
University of California, Irvine, USA	 Visiting PhD. Student, March 2016 - December 2016. Designed and implemented a graph anonymization algorithm in Python and contributed the code to the Python NetworkX library (ver. 2.2).
University of Trento. Italy	 Research Fellow, May 2013 - October 2014. Maintained and contributed a peer-to-peer application for real-time streaming in C/C++.
University of Trento, Italy	 Research Fellow, May 2013 - October 2014. Maintained and contributed a peer-to-peer application for real-time streaming in C/C++.

Education 🎓

PhD. in Networked Systems (Computer Science), 2014 - 2018, University of Trento, Italy.
M.S. in Computer Science Engineering, 2011 - 2013, University of Florence, Italy.
B.S. in Computer Science Engineering, 2007 - 2011, University of Florence, Italy.

Publications and Patents \square

Google Scholar profile, 19 peer-reviewed publications with 200 citations and h-index 9. **Provisional Patent**, Channel-Aware Reactive Mechanism (ChARM), US 63/244,192.

Skills 🔘

C, C++, Python, JavaScript, GNU/Linux, Yocto/OpenEmbedded, u-boot, ARMv7, STM32, Atmel attiny, NXP i.MX6ULL, AMD Zynq 7000 SoC, TCP/IP, UDP, WebRTC, CAN, USB, I2C, HTTP(S), PyTorch, CNN, ResNet, React LLM agents, Docker, LXC, git