

# Emiliano Maccaferri

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**Date of birth:** March 20, 2000 - **Place of birth:** Cento (FE), Italy - **Nationality:** Italian

## Professional profile

Currently a research fellow at Unimore.

Passionate about cloud technologies since age 16. Over the past few years I've always operated the latest, cutting-edge tools to build and deploy software as a freelance developer, helping many companies modernize their stacks and transition their environments to the cloudnative world, when needed. I'm constantly aiming towards deepening my set of skills and experiences in the field and that's why I intend to pursue an academic career.

## Education

- 09/2022 – 10/2024 **Masters's Degree in Computer Engineering (Cloud and Cybersecurity)** - Università di Modena e Reggio Emilia  
Thesis: *NextPyter: una piattaforma distribuita per Jupyter Notebooks* - supervisor: Francesco Faenza  
Grade: **110 / 110 cum laude**
- 09/2019 – 10/2022 **Bachelor's Degree in Computer Engineering** - Università di Modena e Reggio Emilia  
Thesis: *Applicazioni distribuite in Node.js* - supervisor: Prof. Nicola Bicocchi
- 09/2014 – 07/2019 **High School Diploma** - ITIS Enrico Fermi  
IT and Telecommunications

## Work Experience

- 16/11/2024 – Present **Research Fellow** Università degli Studi di Modena e Reggio Emilia  
Distributed systems and networking
- 11/03/2023 – 25/09/2024 **Internship**  
Master's Degree internship.
- 01/10/2023 – 01/10/2024 **Senior Software and DevOps Engineer** XTO Group S.R.L.  
Senior and DevOps engineer using the following stack: Flutter, Docker, AWS Lambda, NodeJS, Angular, MongoDB.
- 01/04/2023 – 01/04/2024 **Senior Cloud Developer** Engim S.R.L.  
Senior cloud developer using the following stack: AWS Lambda, AWS infrastructure (SSM, CloudFormation).
- 01/09/2022 – 31/10/2023 **Lead Backend Developer** Mokka Studios S.R.L.  
Fullstack development, infrastructure management, container orchestration with Kubernetes and Google Cloud Platform
- 01/03/2022 – 31/08/2023 **Lead Backend Developer** Boring S.R.L.  
Backend development, infrastructure management, container orchestration with Kubernetes and Google Cloud Platform.
- 01/01/2019 – 31/03/2024 **Fullstack developer** TheList Production  
Fullstack development and web applications design on top of bare-metal Linux machines and Docker.
- 01/07/2019 – 31/07/2024 **Internship** IFIConsulting S.R.L.  
Tech support and networking appliances management (HP, Cisco).
- 01/01/2018 – 30/09/2024 **IT Consultant & fullstack developer** EZETA Consulting S.R.L.S  
IT consulting, fullstack development and web application design on top of bare-metal Linux machines and Docker.

01/07/2018 – 31/07/2018

**Internship** CED Comune di Modena

Networking appliances management (Cisco, Fortinet) and authorized penetration testing on SaaS web apps.

## Research Publications

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### Conference Proceedings

- [1] F. Faenza, C. Canali, L. Fregni, and **E. Maccaferri**, "Nextpyter: Open-source research collaborative platform," in *Practice and Experience in Advanced Research Computing: Human Powered Computing, ACM PEARC24*, Providence, RI, USA, 2024.
- [2] F. Faenza, **E. Maccaferri**, and C. Canali, "Containerized jupyter notebooks: Balancing flexibility and performance," in *Containerized Jupyter Notebooks: balancing flexibility and performance, NCA 2024*, Bertinoro, FC, Italy, 2024.

### Skills

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Backend coding	Rust, Kubernetes Operator development, TypeScript (Node.js, Deno), Java, Kotlin, Python, Golang;
Frontend coding	Vue.js, Nuxt, Flutter, Dart, SCSS, HTML5, Swift;
Linux Kernel development	eBPF modules and I/O devices. Experience with epoll/io_uring. Basics of RNG inside the kernel;
APIs	Kubernetes API/Docker API, Stripe API
Networking	<ul style="list-style-type: none"><li>- Worked with the Cloudflare platform (Workers, R2, ZTNA, Anycast).</li><li>- Can configure and setup CISCO and HP routers/switches.</li><li>- Can operate Palo Alto, Fortinet NGFW.</li><li>- MetalLB.</li><li>- Ingress networking, Gateway API (Kubernetes).</li><li>- Wireguard.</li><li>- Multi-cluster Kubernetes.</li><li>- Proxmox administration, SDN.</li><li>- VLAN, VXLAN setup between physical hosts.</li><li>- Knowledge of modern datacenter design and networking implementations.</li></ul>
Other and miscellaneous	<ul style="list-style-type: none"><li>- Docker, Kubernetes, Linux, Proxmox, Firewalling, DevOps, SecOps, aws, GCP, HETZNER.</li><li>- Fluent in Linux-based distributions (mainly RedHat-centric and Debian-based distros);</li><li>- Database design and maintenance, indexing at scale, big datasets.</li><li>- Postgres, MySQL, MariaDB.</li><li>- Redis/Redis Streams and consumer groups.</li><li>- MongoDB with big datasets.</li><li>- Keycloak and OAuth2-based infrastructures.</li><li>- Kubernetes cluster administration.</li><li>- Kubernetes networking, Calico CNI, Flannel, Vagrant CNI.</li><li>- Firebase storage, Google Cloud Functions, AWS Lambda, GKE, EKS, BigQuery, RDS, EC2, AWS S3, CloudFlare R2.</li><li>- CI/CD with GitHub Actions, GitLab, Jenkins.</li><li>- Ansible.</li><li>- Etcd, Rqlite, Vault.</li><li>- Terraform.</li><li>- Grafana and Prometheus.</li><li>- OpenTelemetry + Jaeger.</li><li>- Ceph, Ceph object storage.</li></ul>

Graphic design	<ul style="list-style-type: none"><li>- Advanced Figma user;</li><li>- Fundamentals of Photoshop;</li></ul>
Languages	<ul style="list-style-type: none"><li>- Italian (native);</li><li>- English (fully fluent, both written and spoken);</li><li>- Spanish (basic);</li><li>- Swedish (basic);</li></ul>
Social skills	I get along easily with people and I enjoy teamwork as much as individual work. I'm comfortable with continuous and fast communication with customers and team members thanks to my 6+ years of experience as a freelance developer. I have worked as a team leader for different projects and, while working on my Master's thesis, I also have coordinated the efforts of several undergraduate students who have been helping build the platform, so I'm confident with team management.

## Privacy

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Quanto dichiarato nel presente curriculum vitae corrisponde al vero ai sensi degli artt. 46 e 47 del D.P.R. 445/2000

I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data"

Last update: 29/10/2024