

Sergio Barrachina-Muñoz, Ph.D. Research Engineer, ML/LLMs & Technical Lead

CONTACT INFORMATION	Email: barachina.sergio@gmail.com Website: https://sergiobarra.github.io/ Barcelona (Spain)	Tel: +34 608108238 
PROFESSIONAL SUMMARY	Leveraging my background as a Telco/AI PhD and research scientist (h-index 19, 1000+ citations), I specialize in the convergence of 5G/6G, Wi-Fi, and AI/ML. As head of a research lab/datacenter with a team of 5, I also lead the infrastructure that supports our work. I develop and deploy production LLM applications for both research project solutions and intelligent lab operations. Additionally, I bring over a decade of experience teaching undergraduate engineering students.	
PROFESSIONAL EXPERIENCE	Senior Researcher in Services as NetworkS (SaS) at CTTC Mar 2021 - <i>currently</i> <ul style="list-style-type: none">Architected and administered a large-scale, cloud-native datacenter (3,000+ CPU cores, 15 TB RAM, 1 PB storage, 20+ GPUs) to support AI/ML workloads and network research. Leading a team of 5 researchers and engineers.Spearheaded the design and development of an Experiment-as-a-Service (ExaS) platform, letting external stakeholders set up and perform 5G/6G experiments remotely.Led the end-to-end development of multiple proofs-of-concept (PoCs), including O-RAN, 5G cores, satellite, and AI/LLM-based frameworks across edge and cloud.Managed the experimental part of 10+ EU/Spanish research projects, from planning to technical delivery and reporting. Course Instructor at UOC Feb 2021 - <i>currently</i> <ul style="list-style-type: none">Teach networking courses, mentoring 150+ students annually in telecom concepts. Lead QA engineer, Wi-Fi expert at Centum Solutions Jan 2021 - Mar 2021 <ul style="list-style-type: none">Defined standards and procedures for automated testing infrastructure. Software developer engineer intern at Ricoh Spain Feb 2015 - Oct 2015 <ul style="list-style-type: none">Java ME development and service/project support. QA intern at Vendo Services Jun 2014 - Oct 2014 <ul style="list-style-type: none">Wrote and executed test scripts and plans in development, staging, and production.	
EDUCATION	PhD in the Wireless Networking research group (UPF) Oct 2016 - Jan 2021 <ul style="list-style-type: none">Thesis (<i>cum laude</i>): “<i>Responsive spectrum management for WLANs: from heuristic-based policies to model-free reinforcement learning</i>”.Research stay at Rice Networks Group in Rice University (Houston, United States). MSc , Intelligent and Interactive Systems at UPF Sep 2015 - Jul 2016 BSc , Telematics Engineering at UPF (<i>Top of class</i>) Sep 2011 - Jul 2015	
SKILLS	<ul style="list-style-type: none">Programming: Python, Java, C/C++, Go, Matlab, <i>LaTeX</i>AI & MLOps: LLMs, Ollama, n8n, RAG, multi-agent frameworks, fine-tuning (LoRA), CI/CD pipelines, NVIDIA CUDA, PyTorch, MCP, Weights & Biases (wandb)Cloud & DevOps: Linux, LXD, TCP/IP, Docker, Kubernetes, OpenStack, Tofu (Terraform), Ansible, Puppet, Prometheus, Grafana, KafkaTelecom & 5G: Open5GS, Free5GC, OpenAirInterface, Amarisoft, SRSCollaboration & Workflow: GitHub, GitLab, Jira, Confluence, Agile, Kanban	
LANGUAGES	English (C1), Spanish (C2), Catalan (C2), German (A1)	
REFERENCES	<ul style="list-style-type: none">Rasoul Nikbakht, <i>Senior ML Engineer at Keysight Tech.</i> rasoul.nikbakht@keysight.comLuis Sanabria-Russo, <i>DevOps Engineer at O(1)</i> luis@o1labs.org.comEdward Knightly, <i>Head of Networks at Rice University</i> knightly@rice.edu	