PAOLO NOTARO

MACHINE LEARNING ENGINEER

CONTACT

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SUMMARY

I am a ML Research Engineer at IABG working on LLMs, NLP, and AI evaluation. I have 5+ years of experience applying ML to real-world problems and contributing to real-world services in cloud production systems. For my PhD at the Technical University of Munich (completed Sept '23), I authored several papers in high-ranking scientific conferences and journals.

EDUCATION

PhD - INFORMATICS

Technical University of Munich
2020 - 2023

Title: AI-based Proactive Failure Management in Large-scale Cloud Environments
Research Topics: NLP, Data Mining, Deep Learning, Root-cause Analysis, Cloud Reliability

MSc - INFORMATICS

Technical University of Munich
2017 - 2019

Final grade: 1.7 (merit)

BSc - COMPUTER ENGINEERING

Politecnico di Torino
2014-2017

Final grade: 108/110

SKILLS

- **Programming Languages**
  - Python, SQL, Java, C++
- **Systems and Tools**
  - Linux, Bash, Docker, Git
- **Languages**
  - Native: Italian
  - Fluent: English
  - Conversational: German

EXPERIENCE

MACHINE LEARNING ENGINEER

IABG mbH - Innovation Center (October 2023 - Present)

- supported the development, deployment and maintenance of a portfolio of LLM-based services (RAG tool, AI chatbot), and researched new AI-centric product concepts (meeting notetake, image generator, …)
- Technical leadership on project for Aircraft Cybersecurity + RL
- drove the development in the Confidential Computing community, focusing on privacy-enhancing techniques (DP, HE, TEE, anonymity) and exploring ML privacy attacks (MIA, model extraction, model inversion)
- Organized and hosted AI Microclasses for LLMs with TUM Venture Labs, and managed OSINT benchmarking project, ensuring robust tool evaluation and technical excellence

MACHINE LEARNING RESEARCH ENGINEER

Huawei Munich Research Center (January 2020- September 2023)

- I developed and deployed in production an LLM-based solution for CLI security, leading to the discovery of 10+ security concerns and the publication of a patent as the main inventor
- I developed a new data-driven Root-cause Analysis system, resulting in 37x faster runtime and increased explanation accuracy (+15%)
- I developed novel forecasting and neural-based classification methods for Hardware Failure Prediction, improving detection accuracy (F1 +13%)

PHD CANDIDATE

Technical University of Munich (April 2020 - Present)

- I was the main author of 5+ publications in high-rank conferences and journals (A/A*)
- I supervised 10+ students in university projects, including seminars, master theses and guided research

AWARDS

- TUM Junge Akademie Nominee (Top 5% TUM Students)
- 2x Employee Award Winner at Huawei
- Best Paper Award Nominee at CCGRID 2023

Further Experiences

MASTER THESIS CANDIDATE - RADAR CLASSIFICATION

Airbus Defence and Space

February - November 2019

- I designed an RNN-powered system for classification of radar pulse sequences in aerovehicle defence applications, with a focus on robustness and real-time efficiency.
- FInal Grade: 1.0 (max). The thesis work was submitted to ICASSP 2020

TEACHING ASSISTANT

Technical University of Munich

November 2018 - September 2019

Support to the "Intro to Deep Learning" MSc lecture course

- Host office hours
- Prepare slide materials and homework, exam correction
- Maintain homework correction system with Bash+SQL

WORKING STUDENT - ML-BASED SECURITY

Crashtest Security GmbH

September 2018 - March 2019

I used ML tools to detect site vulnerabilities, identify complex threats and separate them from false positives. I developed a custom pre-processing technique to deal with the specific sensitive data in use.