Giovanni Rosa

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Previous role	Machine Learning Research Engineer at Nova Tellus project, University of Molise
Technologies	Docker, Python, Pandas, Scikit-Learn, Git, FastAPI, CSS, TypeScript, HTML, Postgres, Ionic, Angular 8+, SpringBoot, REST …

I want to work for a company that…
Values a good work-life balance and offers various opportunities to grow and learn new things

Work experience

Machine Learning Research Engineer, Nova Tellus project, University of Molise 🏢   Apr 2023 – Oct 2023 (6m)

Docker   Python   Pandas   Scikit-Learn   Git   FastAPI

- Served as machine learning scientist for an applied research project for Industry 4.0 in agricultural domain;
- Developed and validated a set of classifiers to serve as a decision support system for agricultural practices
- Processed IoT data for training and validation

Freelancer Developer, First-Aid App 🏢   Nov 2020 – Jan 2021 (2m)

CSS   TypeScript   HTML   Postgres   Ionic   Angular 8+   SpringBoot   REST API

- Design and development of a life-saving mobile app to call nearby BSLD operators in case of heart-related emergencies.
- Exploited geoqueries and geolocation to locate nearby operators
- Implemented real-time notifications for immediate response during the emergencies

Machine Learning Research Engineer, ATTICUS project, University of Molise 🏢   Apr 2019 – Oct 2020 (1y 6m)

Docker   Kubernetes   Python   Android   Scikit-Learn   Git

- Served as machine learning scientist for an applied research project for the design and development of an Internet of Medical Things (IoMT) system for patient monitoring and early detection of health anomalies via machine learning.
- Developed and validated machine learning approaches to detect health-related anomalies, while managing DevOps activities and deploying ML models.
- Acquired skills in Decision Support System (DSS), Kubernetes, git, GitLab CI/CD, Docker, Scikit-Learn, TensorFlow, Android, Bluetooth Low Energy (BLE), GATT server and client.

Freelancer Developer, CARUSO bot 🏢   Mar 2020 – Apr 2020 (1m)
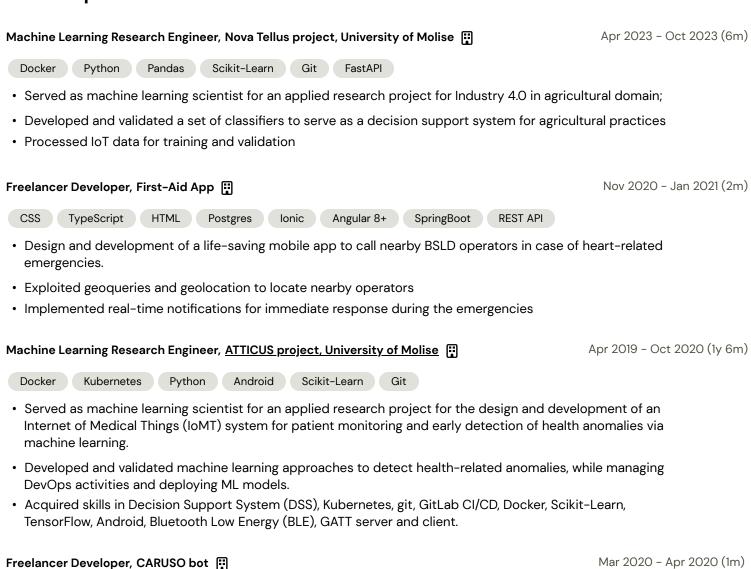
CSS   HTML   JavaScript   Python   NLTK

- Developed a chatbot to answer COVID-19 related questions based on a knowledge base of scientific articles
- The aim was to provide a reliable source of information to avoid the diffusion of fake news

- Acquired expertise in HuggingFace and BERT (LLM), Natural Language Processing (NLP) techniques through hands-on development and implementation of the chatbot

Freelancer Developer, SearchEngine4Legal ⊞   Feb 2019 – Apr 2019 (2m)

`Elasticsearch`   `SpringBoot`   `REST API`

- Designed and developed a prototype of a search engine specifically designed for legal documents.
- Developed expertise in Elasticsearch, Spring Boot, Natural Language Processing (NLP), and web crawling techniques.

Education

University of Molise   Oct 2020 – Present (3y)

Ph.D. in Software Engineering
- My primary focus is to study the quality and maintenance of Docker artifacts
- I participated in various international conferences presenting my research results
- I also served as a teaching assistant and as a research engineer in applied research projects involving practical applications of machine learning methods.
- More details can be found on my academic website (giovannirosa.com)

Grupo de Sistemas y Comunicaciones, Universidad Rey Juan Carlos   Nov 2022 – Feb 2023 (3m)

Visiting PhD Student, Software Engineering
- Visiting period as a PhD student under the supervision of Prof. Gregorio Robles.
- We conducted an empirical analysis of the design flaws (smells) present in Dockerfiles.

University of Molise   Oct 2018 – Oct 2020 (2y)

Master's Degree, Software Systems Security, *110 cum laude*
- During my master's degree I learned concepts covering security, machine learning, optimization methods, and project management.
- I was the best performer in the project management exam, where I successfully guided a group of ~20 people in the development of a full-working chat system based on MongoDB, MySQL, Ionic, Socket.io, and NodeJS.
- My thesis work on software bugs was submitted and presented at the ICSE 2021 conference

Software Institute, USI Universita della Svizzera italiana   Mar 2020 – Apr 2020 (1m)

Visiting Master Student, Software Engineering
- The visiting period covered the first part of my master's thesis project in collaboration with USI.
- The topic of the thesis was an empirical study of the SZZ algorithm, which allows the identification of bug-inducing commits.
- The final work was submitted and presented as a scientific paper at the ICSE 2021 conference.

University of Molise   Oct 2015 – Dec 2018 (3y 2m)

Bachelor's Degree, Computer Science, *110 cum laude*

CREST, University College London   Mar 2018 – Jun 2018 (3m)

Erasmus Taineeship Computer Science

- Erasmus traineeship period at UCL CREST research group under the supervision of Prof. Jens Krinke for my bachelor's thesis project.
- During the visiting period, I contributed to a scientific research project evaluating how developers perform code reviews and how they deal with code smells and coding conventions.
- Part of the work was submitted and presented at SCAM 2020.

Snippets

PySZZ 🔗 **github.com**
An open-source implementation of several versions of the SZZ algorithm for detecting bug-inducing commits. Currently, it is currently used by the research community.

MonUP 🔗 **github.com**
Open-source Android app to show crypto prices and news.
Available for free in the Google Play Store. Currently suspended because it is undergoing maintenance.

MicrosatCUDA 🔗 **github.com**
A CUDA porting of MicroSAT, a tool implementing a SAT solver used for software verification.

More about me

I want to work for a company that...

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Interests

Video games, bike riding, music and films

Languages spoken

Italian, English