Position: Machine Learning Scientist at the Data Science for Health (DaScH) Laboratory, Toscana Life Sciences Foundation, Siena (Italy).

Duration: 2 years

WHO WE ARE:

Toscana Life Sciences (TLS) Foundation is a non-profit research bio-incubator accounting for ~400 associates amongst the twenty biotechnology companies incubated and the ten research groups and projects, including two ERC-funded labs, and has a cutting-edge asset of research instrumentation to conduct front-line biomedical research.

To create the biomedicine of the future, TLS is establishing a **Data Science for Health (DaScH) Laboratory** under the strategic direction of Dr. Duccio Medini, partnering up with the broad, existing ecosystem, including the MadLab laboratory led by Dr. Rino Rappuoli and the CERM Foundation led by Prof. Fabio Pammolli.

The **DaScH Lab** will use Computational Immunology, Population Genomics, in-silico Structural Biology, Artificial Intelligence and Bioinformatics to transform biomedical research from early discovery of vaccines and monoclonal antibodies to health technology assessment at the societal level.

WHO WE ARE LOOKING FOR:

We invite applications from passionate Machine Learning Scientists who want to unleash the power of data to improve human health worldwide.

As our Machine Learning Scientist, you will be part of the DaScH Lab and design, implement, deploy, and maintain Machine Learning solutions on multiple projects.

WHAT WE OFFER:

- Unfettered flow of biological data from state-of-the-art biomedical facilities, clinical data from industrial-scale development projects and real-world data from a consolidated network of national and international collaborations.
- A dynamic ecosystem of young investigators with different expertise, from immunology and microbiology to cancer immunotherapy, bioinformatics and topological data analysis, and active projects at the forefront of the fight against COVID-19 and anti-microbial resistance.
- Extensive collaborations with Glaxo Smith Kline (GSK) Vaccines and other pharmaceutical companies, based on the same campus as TLS, and with various industrial and academic research institutions around the world.

WHAT YOU WILL DO:

- Take the lead on Machine Learning projects and create, study, and write well designed and efficient algorithms that can scale.
- Organize and analyze large amount of data from different sources to identify patterns and trends.
- Develop predictive machine learning models (Classification/Regression/Clustering) using large datasets to improve existing processes and get new insights; ensure the robustness and sustainability of these models over time.

- Contribute to the digitalization of data, automation of data retrieval, and creation of efficient pipelines for data analysis.
- Contribute to the attraction of research funding through grants and platform technologies.
- Think and work independently as a scientist: formulate hypotheses, design, conduct experiments, analyze results and disseminate conclusions.

WHAT YOU'LL BRING:

- Master's degree or Ph.D. (preferred) in Data Science, Computer Science or Engineering, Mathematics, Physics or similar
- Deep understanding of the fundamentals of statistics and machine learning, e.g., sampling theory, inference and interpretation, model validation, regression and classification techniques
- Proven experience in manipulating large datasets, **preferably bio-medical**, and development/implementation of Machine Learning/Deep Learning models, **preferably for life science applications**
- Expertise with visualization libraries/ dashboarding for getting insights from data and deliver outputs from models is highly desirable; Mathematical modelling will be considered a plus
- Extensive knowledge of programming languages like Python/R, SQL, Julia
- Critical Thinking and problem-solving skills coupled with the ability to plan and execute
- Ability to cooperate with diverse and cross-functional teams, communicating effectively across different disciplines and cultures
- The icing on the cake: publication track record demonstrating Machine Learning/Deep Learning applications in one or more of the following areas: structural biology, computational immunology, population genomics, AI and bioinformatics

To apply or inquire for further information, please send a motivation letter, your CV and email address of two referees to HR@toscanalifesciences.org

Information about Siena

TLS is located inside the scientific campus of GlaxoSmithKline, in proximity of the city centre of Siena, one of Italy's most beautiful medieval towns in the heart of Tuscany. It is filled with fine examples of Gothic architecture and has one of the world's most unique piazzas - Piazza del Campo, a vibrant and lively atmosphere due to numerous cultural events and the presence of a large University campus. The city and surrounding area (Chianti, Florence etc.) have plenty of interesting places to visit within the reach of public transport and are close to international airports (Pisa, Florence, Bologna, Rome).