Mario Lovrić

☎ +43 664 619 1746| ✉ mlovric@know-center.at
↻ 🔗 LinkedIn G Google Scholar ⦿ GitHub

Senior Data Scientist | Cheminformatician

Data scientist with a PhD degree in cheminformatics and a topic in predictive toxicology. Four years experience in industrial, chemical and medical data science projects. Skilled in Python, predictive modelling and machine learning.

Professional Experience

▲ 07.2017 − present
Research Lead Life Science (2021+) | Know-Center | Austria
-Project lead across various domains such as traffic, manufacturing and medicine
-Writing scientific papers and funding proposals
-Lead team of 2-3 data scientists
Senior Data Scientist (-2021) | Know-Center | Austria
-Application-oriented research in supervised and unsupervised machine learning
-Project lead across various domains such as traffic, manufacturing and medicine
-Successfully implemented a predictive maintenance procedure causing cost reduction

⊼ 12.2018 − 05.2020
Biomedical data scientist (part-time) | Children's Hospital Srebrnjak | Croatia
-Data analysis and predictive modelling in respiratory diseases
-Writing project proposals and scientific papers (H2020, EraPerMed)

⊼ 03.2015 − 07.2017
Analytical chemist | Teva Pharmaceutical Industries | Croatia
-Supervised and trained internists and students in chemical analysis
-Developed chemical analysis methods for new active pharmaceutical ingredients (APIs)
-Successfully validated and transferred analytical methods to Quality Control
-Implemented the Accelerated Stability Assessment Program for pharmaceuticals

⊼ 02.2014 − 03.2015
Junior scientist | University of Basel | Switzerland
-Assisted in practical classes of general and inorganic chemistry
-Research project: Development of a miniature microplasma gas chromatography detector for chemical analysis
-Developed and tested electric circuits and detector prototypes
-Wrote Python programs to drive prototype components

⊼ 09.2012 − 09.2013
Junior scientist | AC2T Research | Austria
-Analysed fuels, lubricants and their ageing products with chemical analysis instruments
-Presented scientific work at conferences and to customers
-Managed work-packages in chemical analysis and mandated projects

Research visits

⊼11.2019–12.2019
Institute of Molecular Chemistry | University of Reims | France
Data science research project in data analysis of NMR spectra

⊼10.2016–11.2016
Laboratoire de Chémoinformatique | University of Strasbourg | France
Data science research project in QSAR analysis of chromatographic parameters

Education

🎓 11.2015 - 06.2021	**PhD Cheminformatics** Faculty of Science - Chemistry Department | University of Zagreb | Croatia Thesis: Development and application of models for ecotoxicological risk assessment of bioactive chemical compounds
🎓 10.2010 - 07.2012	**M.Sc. Applied Chemistry** Faculty of Chemical Engineering and Technology | University of Zagreb | Croatia
🎓 10.2005 - 09.2010	**B.Sc. Applied Chemistry** Faculty of Chemical Engineering and Technology | University of Zagreb | Croatia

Courses & Certificates

🎓 06.2020	**Big Data Specialization** Coursera | Introduction to Big Data; Big Data Modeling and Management Systems; Big Data Integration and Processing; Machine Learning With Big Data; Graph Analytics for Big Data
🎓 06.2020	**Deep Learning Specialization** Coursera | Neural Networks and Deep Learning; Improving Deep Neural Networks: Hyperparameter tuning; Regularization and Optimization Structuring Machine Learning Projects; Convolutional Neural Networks; Sequence Models
🎓 03.2016	**Machine Learning course** Coursera

Languages

Croatian	Native
German	Native
English	Fluent
French	Beginner

Soft skills

Managerial	Willing to take lead, experience in leading data scientists
Social	Outgoing and communicative personality, familiar to intercultural environments

Technical skills

Data analysis	Dealt with data engineering, predictive maintenance, forecasting and machine learning
Programming	Linux, Spark, Python, Scikit-Learn, Tensorflow, PyTorch, RDKit
Chemical Laboratory	Used chromatographic, electroanalytical and spectrometric instruments

Relevant publications

1	Lovrić M. et al (2021) Predictive Capability of QSAR Models Based on the CompTox Zebrafish Embryo Assays: An Imbalanced Classification Problem. Molecules 26:1617. https://doi.org/10.3390/molecules26061617
2	Lovrić M. et al (2021) Machine learning in prediction of intrinsic aqueous solubility of drug-like compounds: Generalization, complexity, or predictive ability? J Chemom 35:e3349. https://doi.org/10.1002/cem.3349
3	Lovrić M. et al (2021) Should We Embed in Chemistry? A Comparison of Unsupervised Transfer Learning with PCA, UMAP, and VAE on Molecular Fingerprints. Pharmaceuticals 14:. https://doi.org/10.3390/ph14080758
4	Lovrić M. et al (2020) Understanding the true effects of the COVID-19 lockdown on air pollution by means of machine learning. Environ Pollut 115900. https://doi.org/10.1016/j.envpol.2020.115900
5	Žuvela P., Lovric M. et al (2020) Ensemble Learning Approaches to Data Imbalance and Competing Objectives in Design of an Industrial Machine Vision System. Ind Eng Chem Res 59:4636–4645. https://doi.org/10.1021/acs.iecr.9b05766