

ROBEN BHATTI

M.Sc Physics of Data Student

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SUMMARY

24-year-old M.Sc. Physics of Data student with a strong background in Physics, Mathematics, and Statistics. Proficient in Python, R, SQL, and various technologies, including Kafka and PySpark. Passionate about Data Science and Physics, with a keen interest in exploring innovative solutions for challenging problems.

SKILLS

Languages: Python, R, SQL, VHDL, Arduino, Latex, Shell, VBA.

Technologies: Docker, Git, Anaconda, Kafka, Spark, Keras, Pytorch, Numpy.

EXPERIENCE

- 8/2024 - 3/2025 **Data Scientist Intern** DLR Bremen (DE)
Bayesian Modelling for Reusable Launch Vehicles
- 3/2022 - 6/2023 **Study Room surveillance** University of Padua
Offered assistance, resolved issues, and ensured a conducive environment.
- 11/2023 **NOI Hackaton SFSCON Edition** Bolzano
Participated in a 24h coding challenge.

EDUCATION

- 10/2022 - 3/2025 **Master Degree in Physics of Data** University of Padua
master degree program that merges and innovates the educational offers from Physics and Data Science
- 10/2019 - 10/2022 **Bachelor Degree in Astronomy** University of Padua
Bachelor program provides solid foundation in physics, mathematics, and statistics.
- 9/2014 - 7/2019 **Industrial thermo-technical expert** ITIS B. Castelli (Brescia)
Expert in designing, regulating, and controlling heating systems for civil and industrial installations, with strong academic background

PROJECTS

- Streaming processing of cosmic rays using drift tubes detectors** Kafka, PySpark
Simulate a continuous DAQ stream of real data collected in a particle physics detector and publish the results in a dashboard for live monitoring.
- Bayesian optimization with Gaussian Processes** Python, TensorFlow
GP implementation to find the minimum of analytical test functions and fine-tune hyperparameters in a CNN. MCMC and point estimation with Maximum Likelihood are explored to find hyper-hyperparameters for the GP kernel
- DETR for recognition of real chess game** Pytorch
DETR finetuning for recognition of chess pieces and their position on a real board. Conversion of the game state in FEN annotation.
- Feature importance methods of simulated binary black holes** Python, Machine Learning
Determines what features have the highest impact on the evolution of a binary system into a Binary Black Hole using various Machine learning techniques.
- Naive Bayes multinomial classifier for fake news detection** R
Accurate and automated identification of fake news sentences using Bayes Theorem.

LANGUAGES

English - C1, Italian - native