


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)
- Developed a Bayesian Framework for uncertainty estimation of Aerodynamic Coefficients.
 - Set up CI/CD pipeline, Unit Tests, Linting, and modular package structure following PEP8.
 - Applied sparse methods for efficient Bayesian computation.
 - Followed Scrum Workflow for structured and iterative development.

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.

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

EXTRA

- 11/2023 **NOI Hackaton SFSCON Edition** Bolzano
Developed an AI prototype during a 24-hour hackathon, leveraging computer vision to detect parking abuse, assist customers, and generate big data insights. Collaborated under tight deadlines, set clear goals, and delivered solutions effectively.
- 3/2022 - 6/2023 **Study Room surveillance** University of Padua
Provided assistance, resolved issues, and ensured a conducive environment.