# 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.

## 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**
Participated in a 24h coding challenge.