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, CI/CD, Anaconda, Kafka, Spark, Keras, Pytorch, Numpy.

EXPERIENCE

10/2024 – now **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 - 06/2025 **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.