
Sabin Hashmi

Kraków, Poland • sabinhashmii@gmail.com • [linkedin.com/in/sabinhashmi](https://www.linkedin.com/in/sabinhashmi) • <https://sabinhashmi.github.io>

PhD Researcher specializing in advanced algorithm development and deployment for large-scale, real-time systems. Experienced in building machine learning models, neural networks, and time series forecasting solutions to address complex data challenges. Proficient in end-to-end ML pipeline development, with a strong background in collaborative, multidisciplinary teamwork.

SKILLS

- **Programming Languages:** Python, C++, Dart, SQL
- **Frameworks and Libraries:** PyTorch, TensorFlow, Scikit-learn, XGBoost, CatBoost, Flutter, ROOT
- **Computational Tools:** Git, Tableau, Latex
- **Core Expertise:** Predictive Modeling, Pattern Recognition, Anomaly Detection, Risk Analytics, Statistical Modeling, Large-Scale Data Analysis, Scientific Computing, Explainable AI (SHAP, LIME)

WORK EXPERIENCE

- CERN**
Project Associate

Genève
Oct 2020 - Present

 - Conducted research as part of the Ph.D. program at LHCb Experiment.
 - Designed and implemented intelligent computational algorithms for rare event detection and hardware calibrations.
 - Developed and deployed machine learning models with software trigger systems.
- HSBC**
Compliance Analyst

Kraków
Nov 2022 - Aug 2023

 - Built and analyzed metric models for financial crime and risk detection.
 - Conducted metric evaluations for financial tools and products, leveraging synthetic data for testing and validation.
- KopKopi**
Junior Data Scientist

Gdańsk
Mar 2021 - May 2021

 - Conducted market research and developed business optimization strategies using data analytics.
 - Performed detailed analysis of market trends, customer segmentation, and sales performance.

EDUCATION

- Ph.D in High Energy Particle Physics**
AGH - University of Science and Technology

Kraków • Oct 2020 - Present

Research Focus: Design, develop, and deploy machine learning-based trigger algorithms for rare event selection in high-energy physics experiment.

Post Graduate Diploma in Data Science and Engineering

Great Lakes Institute of Management

Bangalore • Aug 2019 - Feb 2020

Project: Developed a customer profiling model to optimize loan approval systems, leveraging machine learning for risk assessment and customer segmentation.

Integrated Masters in Physics

Central University of Tamil Nadu

Thiruvavur • Aug 2013 - Jul 2018

Thesis: Finite Element Method (FEM) in Microwave Diathermy for medical applications.

PROJECTS

Upstream Tracker Calibration using LSTM

Jan 2024 - Present

AGH - University of Science and Technology

- Developed an LSTM-based forecasting algorithm for real-time monitoring and optimization for hardware calibration.

Building Advanced Computational Models for High-Level Trigger Systems

Oct 2020 - Present

LHCb Experiment, CERN

- Developed and deployed machine learning models for rare event selection within the LHCb Experiment's real-time trigger system.
- Integrated the models into the track reconstruction process, enabling real-time event detection and analysis.
- [Publication-Link](#)

Dried Droplet Pattern Recognition using Artificial Neural Networks.

Oct 2020 - Feb 2021

Central University of Tamil Nadu

- Applied deep learning algorithms to identify and classify patterns in dried droplet experiments, advancing recognition techniques for scientific imaging.
- [Publication-Link](#)