

Aqeel Ahmed, PhD

Physicist | Quantitative Researcher | Data Scientist

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SUMMARY

PhD Physicist with 10+ years of experience in high-dimensional quantitative modeling, statistical analysis, and large-scale computational simulation. Expert in leading data-driven research initiatives and engineering complex analytical solutions using Python, C++, and Mathematica with a proven track record of translating abstract mathematical problems into actionable algorithms. Currently leveraging a deep scientific modeling background to transition into Data Science and Machine Learning, focusing on deploying AI-driven insights to solve complex, data-intensive challenges.

SKILLS

Data Science & ML	NumPy, SciPy, Pandas, Scikit-learn, PyTorch, PySpark, SQL, Scikit-HEP, Google Cloud
Programming & Tools	Python, C/C++, Fortran, Wolfram Mathematica, Git, Linux/Bash, LaTeX, Jupyter, Docker, GitHub
Mathematics	Stochastic Modeling, Monte Carlo Simulations, Symbolic Analysis, Statistics
Soft Skills	Project Management, Communication, Critical Thinking, Team Collaboration
Languages	English (Fluent), German (Intermediate B1) [B2 in progress]

EXPERIENCE

Max-Planck-Institut für Kernphysik, Heidelberg, Germany	Postdoctoral Researcher	Oct 2020 – Dec 2025
– Architected high-dimensional predictive models for complex physical systems, translating abstract mathematical theories into scalable Python/C++ codes.		
Vrije Universiteit Brussel, Brussels, Belgium	Postdoctoral Researcher	Oct 2018 – Sep 2020
– Built analytic models and visualized large data using NumPy, Pandas, and Matplotlib.		
Johannes Gutenberg University, Mainz, Germany	Postdoctoral Researcher	Dec 2017 – Sep 2018
– Extensive use of Python and Mathematica for symbolic and numerical analysis.		
University of Warsaw, Warsaw, Poland	Research Associate	Apr 2016 – Nov 2017
– Led research initiatives, performing advanced analytic and numerical calculations.		

EDUCATION

◊ PhD Physics (<i>International PhD Fellowship</i>)	Dec 2011 – Jan 2016
University of Warsaw , Warsaw, Poland	
Visiting Scholar at UC Riverside (1 year) and UC Davis (6 months)	
◊ M.Sc. & M.Phil Physics (<i>Chancellor Gold Medal</i>)	Feb 2006 – Apr 2010
Quaid-i-Azam University , Islamabad, Pakistan	

LEADERSHIP

- **Mentorship & Team Lead:** Co-supervised and mentored 10+ PhD and Master's students, guiding technical implementation and ensuring project delivery.
- **Quality Assurance:** Appointed technical referee for top-tier physics journals (JHEP, PRD, EPJC); verified mathematical validity and data integrity.
- **Representation:** Acted as Postdoc Representative and Project Convener for the *be-h consortium*, aligning technical goals across 5+ institutions.
- **Communication & Organization:** Presented at 50+ international conferences; organized 10+ technical workshops for up to 200+ attendees.
- **Knowledge Transfer:** Taught advanced graduate courses in physics at the University of Heidelberg, University of Warsaw, Vrije Universiteit Brussel, and Quaid-i-Azam University.