



CONTACT

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Bath, United Kingdom

EDUCATION

- PhD, Power System Reliability**
University of Bath
- MPhil, Power System Optimisation using Machine Learning**
Royal Holloway, Univ. of London
- M.Tech, Electrical Power Systems**
IIT Roorkee — Distinction
- M.Tech Thesis Research**
RWTH Aachen University
- B.Tech, Electrical Engineering**
Aligarh Muslim University

TECHNICAL SKILLS

Python · MATLAB · Java
HTML · CSS · JavaScript
Pyomo · PandaPower · MATPOWER
Gurobi · Ipopt · SciPy
Pandas · NumPy · Matplotlib

FELLOWSHIPS

- URSA Fellowship
- DAAD Fellowship
- LSC Fellowship
- MHRD Fellowship

AWARD

3rd Best Paper — icSmartGrid 2025, Glasgow, UK

Bilal Ahmad

Electrical Engineer | Power Systems Researcher | Machine Learning

PROFILE

PhD researcher at the University of Bath working on power distribution network reliability and Battery Energy Storage Systems, combining Optimal Power Flow (OPF/SCOPF) with explainable machine learning for grid resilience. Former Technical Lead in Machine Learning at HCL Technologies, with a track record spanning power system optimisation, control engineering, and applied AI across research and industry.

PROFESSIONAL EXPERIENCE

Technical Lead, Machine Learning *HCL Technologies*

- Led development of ML-enabled features across products, including handwritten text extraction, OCR, and automated catalogue tagging
- Built sales forecasting and document digitisation pipelines, and an image noise-removal model for MedTech-relevant sensor systems
- Designed a fully automated OPF and SCOPF framework applying ML-based power flow analysis for grid contingency screening

Doctoral Researcher *University of Bath*

- Researching power distribution network preparedness for severe weather events involving compound hazards
- Developing an automated optimal procurement strategy framework for Distribution Network Operators (DNOs)
- Applying explainable AI (XAI) methods to intelligent contingency screening for power system reliability

KEY PROJECTS

- Power System Reliability in Adverse Weather Events — Bath PhD research programme
- XAI based SCOPF Framework for Power System Optimisation — RHUL MPhil programme
- System-Level Control of Inverters in DC Microgrids — RWTH Aachen thesis
- Multilevel Inverter with MPP Tracking — power electronics research project