

RITTICK BARUA, PhD

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SUMMARY

Applied Data Scientist and Consultant with 7+ years of experience delivering production ML/GenAI solutions across finance, health-care and the public sector. Drove £8M+ in projected savings across a £10M programme portfolio. PhD in Engineering from University of Cambridge with a track record of leading cross-functional teams from concept to production and driving executive adoption.

PROFESSIONAL EXPERIENCE

Expert Consultant (contract) – Rud Pedersen Group / Bloch.ai, London, UK

Jan, 25 - Present

- Led executive training on AI adoption and strategy, guiding senior leadership in AI vision setting, capability assessment and business value driven prioritisation resulting in discovery of 30+ high-impact use case with £1.8M projected annual savings
- Mapped the full bid development journey, identified friction points and automated LLM driven first draft by retrieving structured content from past proposals, bios, and capability statements eliminating 80% of repetitive task and accelerating bid turnaround
- Operationalised scalable AI-powered sentiment and emotion analysis engine on Azure processing 100K+ internal communications

Head of Applied Science – Grant Thornton, London, UK

Jan, 22 - Nov, 24

Strategy & Thought Leadership

- Authored UK Government (DSIT) White Paper on cybersecurity vulnerabilities in AI systems, incorporate insights from 10+ cross-sector experts to identify 12 critical threat vectors across the AI lifecycle, delivering actionable recommendations to secure AI systems
- Authored an AI-impact report for a global financial conglomerate, surveying 100+ roles across 50+ departments to assess near-term AI advances, map role-level disruption from reception to C-suite and deliver a skills-based roadmap to prepare the workforce for automation and improved operational efficiency
- Led GenAI adoption programme: defined the enterprise roadmap, identified/prioritised 25+ use cases across 5 divisions, set intake, governance and success KPIs, designed ideation to product pipeline and launched 8 solutions (R&D/reporting/ops) savings £3M+
- Drove org-wide enablement and adoption: partnered with marketing to run a company-wide campaign, built a champions network across divisions and delivered demos to 2000+ staff, and mentored 7 junior data scientists

Applied AI Delivery

- Automated 90% of audit report generation leveraging LLM freeing 5 FTE (£650K) while maintaining 100% compliance
- Delivered CV based PoC to automate detection of PPE violations in dynamic construction sites with 98% recall for a H&S project
- Built adaptive residual value model for EV fleets (XGBoost) - Engineered self-improving lifecycle cost predictions using real-time repair/degradation data, optimizing sell/hold decisions for £multi-million asset portfolios through continuous learning

Co-Founder and CEO – Caritas Research Limited (Non-profit), London, UK

Feb, 21 - Mar, 24

- Co-founded strategy and research consultancy in the UK with branches in India and Bangladesh to enable NGOs, Social Enterprise and Not-for-profit organisations to evaluate the impact of social interventions programmes and redirect effort to maximise output

Consultant – Appian Corporation, London, UK

Feb, 20 - Jan, 22

- Identified business gaps, proposed and led the development of an app to optimise the allocation of reserve consultants to internal projects and utilised £1.1M/annum worth of human resources for internal development
- Managed a team of developers, delivered software solutions from inception to final product using AGILE methodology, automating processes, managing workflows, and integrating with external systems that is serving 6,000+ concurrent users across EU

Research Engineer – Thames Water Utilities, Ltd., Reading, UK

Jan, 12 - Dec, 13

- Won £120K in funding; led a 4-person team from experimental design through to presenting findings at an international conference
- Engineered multi-stage reactor systems that increased anaerobic-digestion efficiency of sludge treatment process and increased biogas production by 33–52%; slashed grid-energy dependency and reduced plant OPEX through self-sustaining biogas utilisation

APPOINTMENTS

Visiting Researcher – UCL Hospital - Department of Surgical Biotechnology, London, UK

Mar, 25 - Present

Visiting Research Fellow – Manchester Metropolitan University, Manchester, UK

Apr, 24 - Present

EDUCATION

PhD in Chemical Engineering and Biotechnology – University of Cambridge, Cambridge, UK

Oct, 14 - Sep, 18

- Fully funded scholarship, authored 1 peer-reviewed paper and awarded Best Poster prize at conference
- To improve oil well integrity and drilling operations, I proposed a novel flow model to describe the behaviour of complex fluid

BSc. in Chemical Engineering (1st Class Hons.) – University College London, London, UK

Oct, 07 - Jun, 11

SKILLS AND TECHNOLOGY

- **Skills** - Time-series forecasting, Classification, Residual Value Evaluation, Image, Signal and Noise processing, Image Segmentation,
- **Language /libraries** - Python (Numpy, Scipy, Pandas, Matplotlib, OpenCV, scikit-learn, PyTorch, Tensorflow), MySQL, MATLAB
- **Platform** - Azure (OpenAI, AI Foundry, ML Lab, Function App, PowerPlatform, Teams apps), Appian, KNIME, GitHub, Postman