RITTICK BARUA, PhD

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SUMMARY

Highly experienced Consultant and applied Data Scientist with 7 years of experience in delivering enterprise-grade AI/ML solutions on Azure driving £8M+ projected savings through £10M+ project portfolio across finance, healthcare and public sectors. PhD trained Engineer from University of Cambridge with a proven track record in leading cross-disciplinary teams, managing full product lifecycles, and driving digital transformation through data-driven strategies, automation, and stakeholder engagement.

PROFESSIONAL EXPERIENCE

Expert Consultant (contract) – Rud Pedersen Group / Bloch.ai, London, UK   *Jan, 25 - Cont.*

- 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
- Operationalised scalable AI-powered sentiment and emotion analysis engine on Azure processing 100K+ internal communications enhancing executive insight
- Mapped the full bid development journey, identified friction points, and automated LLM driven draft generation eliminating 80% of repetitive content drafting task and accelerating bid turnaround

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, synthesizing insights from 10+ cross-sector experts (academia and industry) to identify 12 critical threat vectors across the AI lifecycle, delivering actionable recommendations to secure AI systems at scale
- Authored an AI-impact report for a global financial conglomerate, surveying 100+ roles across 50+ departments and organisations to project near-term AI advances, map role-level disruption from reception to the C-suite and deliver a skills-based upskilling roadmap that positions the workforce for future automation and greater operational efficiency
- Drove £3M cost savings by defining enterprise GenAI roadmap: Identified/prioritized 25+ use cases across 5 divisions, implemented 8 solutions (R&D/reporting/ops) by managing a team of 4 developers

Applied AI Delivery

- Automated 90% of audit report generation leveraging LLM replacing 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
- Delivered product demo, training and enablement workshops to 200+ audience and mentored junior developers

Research Engineer – Thames Water Utilities, Ltd., Reading, UK   *Jan, 12 - Dec, 13*

- 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
- Established £120K industry-academia partnership; led 4-person team from experimental design to conference presentation, publishing peer-reviewed findings on digestion efficiency

EDUCATION

Visiting Researcher – UCL Hospital - Deptartment of Surgical Biotechnology, London, UK   *Mar, 25 - Cont.*

Visiting Research Fellow – Manchester Metropolitan University, Manchester, UK   *Apr, 24 - Cont.*

PhD in Chemical Engineering and Biotechnology – University of Cambridge, Cambridge, UK   *Oct, 14 - Sep, 18*

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

BSc. in Chemical Engineering (1st Class Hons.) – University College London, London, UK   *Oct, 07 - Jun, 11*