

interviewing, ABDULLAH AL MAHMOOD

Empirical researcher in transport and consumer behaviour · Electrical and electronic engineer · Seeking a funded doctorate, 2027

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Bangladeshi national · Resident in Malaysia on a valid long-term pass · Available immediately · Willing to relocate

PROFILE

An empirical researcher whose work is measurement design: getting behavior recorded as it happens rather than reconstructed afterwards. My sole-authored 2021 study of health-technology adoption in Bangladesh was designed, ethically approved, collected, and analyzed end to end by me, on thirty-five in-depth interviews. My MSc thesis built deep-learning detection of over-speeding and lane-change maneuvers from naturalistic traffic footage in mixed, weakly regulated urban traffic. Since 2019, I have designed and run controlled tests inside large algorithmic advertising systems across five markets: randomization, power, and pre-specification of outcomes before the data is seen.

Electrical and electronic engineer by training, with six and a half years in applied engineering, four of them in a dedicated research role, and an MSc in Information and Communication Technology (CGPA 3.81 / 4.00) taken alongside full-time employment. Four peer-reviewed papers, a fifth accepted for presentation in September 2026, and one in preparation; output has run continuously alongside employment since 2021. I am seeking a funded doctoral position beginning in 2027.

EDUCATION

MSc, Information and Communication Technology — CGPA 3.81 / 4.00 2019 – 2022

Bangladesh University of Professionals (BUP), Faculty of Science and Technology, Dhaka, Bangladesh

Examined March 2022; results published October 2022. Completed in full-time employment.

Thesis (group): *Towards Deep Learning-Based Automated Speed and Lane Change Detection System in the Perspective of Bangladesh.* Deep-learning detection of over-speeding and lane-change maneuvers from naturalistic footage of mixed, weakly regulated urban traffic.

BSc, Electrical and Electronic Engineering — CGPA 3.212 / 4.00 2008 – 2012

Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh. Degree awarded 27 December 2012.

Thesis: *Optimal Peak Shaving Operation of a Hydroelectric Power Station in Bangladesh and its Impact on the Reduction of Severe Load Shedding.* Dispatch scheduling to flatten demand peaks in a chronically supply-constrained national grid; extended with machine-learning methods in [6].

RESEARCH EXPERIENCE

Research Collaborator — Environmental and climate-health machine learning 2025 – present

Multimedia University, Malaysia · Miraiyo, Bangladesh · Centre for Electric Energy and High Voltage Engineering

Cross-institutional collaboration producing [1] and [2]. Supervising collaborator: Ir. Dr. Siow Chun Lim, Faculty of Artificial Intelligence and Engineering (FAIE), Multimedia University.

Independent Researcher (sole investigator) — Health-technology adoption, Bangladesh 2020 – 2021

Sole-authored mixed-methods study published as [5]. Designed the interview instrument, secured institutional ethics approval, recruited by purposive sampling, and personally conducted and thematically analyzed 35 in-depth interviews with clinicians, patients, and platform staff. Field access obtained through the Enzaime Bangladesh role.

Research Engineer — Debonair Electrical & Electronics Ltd., Dhaka 2015 – 2019

Four years of applied product research: investigation and technical evaluation of emerging electrical and electronic systems, with findings reported to international suppliers and industrial clients. Trained junior engineers and communicated technical findings to non-specialist audiences.

Support Engineer — Ahsan Automation Ltd., Dhaka 2013 – 2015

Design and implementation of industrial automation systems; engineering drawing and design; collaboration with international manufacturers on new product development.

PUBLICATIONS

Author name in bold. ORCID 0009-0009-8360-9690. Full texts available on request.

Peer-reviewed conference papers

- [1] Chakraborty, A., Kabir, J., **Mahmood, A. A.**, Santo, I. A., Islam, S., & Siow, C. L. (2026). Forecasting Dengue Outbreaks in Malaysia: A Machine Learning Approach Using Open Weather Data. *7th Multimedia University Engineering Conference (MECON2026 / DIFCon 2026)*, Multimedia University, Malaysia, 5–7 May 2026.

- [2] Chakraborty, A., Santo, I. A., Kabir, J., **Mahmood, A. A.**, Sajid, A., & Siow, C. L. (2026). Air Quality Crisis Prediction in Dhaka: Benchmarking Machine Learning with Seasonal Brick Kiln Features. *7th Multimedia University Engineering Conference (MECON2026 / DIFCon 2026)*, Multimedia University, Malaysia, 5–7 May 2026.

Accepted for presentation

- [3] Ethical Impact of Generative AI on Malaysia's Digital Art: A Survey of Creative Professionals. *The 8th ASEAN–UEC Workshop on Informatics and Engineering*, held with the 13th UEC Seminar in ASEAN 2026, UEC ASEAN Research and Education Center, University of Electro-Communications, Japan, 5–6 September 2026. **Presenting author.** Survey of creative professionals on the occupational and ethical consequences of generative AI; primary data collected by questionnaire.

Peer-reviewed journal articles

- [4] Kabir, J., Chakraborty, A., **Mahmood, A. A.**, & Chakraborty, A. (2024). Exploring Explainable Artificial Intelligence: A Comparative Analysis of Interpretability Techniques. *International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)*, March 2024. Comparison of LIME, SHAP and feature-importance methods on a decision-tree classifier, with practical selection criteria for interpretability frameworks.
- [5] **Mahmood, A. A.** (2021). COVID-19 Pandemic and AI-Based Telemedicine in Bangladesh: A Communicational Analysis. *Asian Journal of Multidisciplinary Research & Review*, 2(2), 592–621. ISSN 2582-8088. **Sole-authored.** Mixed-methods design: 35 in-depth interviews with practitioners, patients and platform staff; purposive sampling; instrument designed and all data collected by the author under institutional ethics approval.

In preparation

- [6] **Mahmood, A. A.** Applying AI for Optimal Hydroelectric Power Management: A Strategy to Combat Severe Load Shedding in Bangladesh. Machine-learning extension of the undergraduate thesis, replacing rule-based peak-shaving schedules with learned dispatch policies under chronic generation shortfall.

Theses

- [7] **Mahmood, A. A.** et al. (2022). Towards Deep Learning-Based Automated Speed and Lane Change Detection System in the Perspective of Bangladesh. MSc thesis, Bangladesh University of Professionals, Dhaka.
- [8] **Mahmood, A. A.** (2012). Optimal Peak Shaving Operation of a Hydroelectric Power Station in Bangladesh and Its Impact on the Reduction of Severe Load Shedding. BSc thesis, Ahsanullah University of Science and Technology, Dhaka.

CONFERENCE PRESENTATIONS

13th UEC Seminar in ASEAN 2026 · 8th ASEAN–UEC Workshop on Informatics and Engineering 5–6 Sept 2026

UEC ASEAN Research and Education Center, University of Electro-Communications, Japan. Theme: Shaping the Future UEC ASEAN Collaboration in Innovation and Global Engagement. **Presenting author on two contributions:**

- Ethical Impact of Generative AI on Malaysia's Digital Art: A Survey of Creative Professionals, see [3].
- Air Quality Crisis Prediction in Dhaka: Benchmarking Machine Learning with Seasonal Brick Kiln Features, presentation of [2] to a regional audience.

7th Multimedia University Engineering Conference (MECON2026 / DIFCon 2026), Malaysia 5–7 May 2026

Co-author of two accepted papers, [1] and [2].

RESEARCH SKILLS AND METHODS

Empirical design	Experimental design and controlled A/B testing at population scale; randomisation, power and pre-specification of outcomes before data is inspected; survey instrument design; semi-structured and in-depth interviewing; purposive sampling; thematic analysis; research-ethics procedure and institutional approval; negotiation of data and measurement agreements with commercial partners.
Quantitative	Supervised machine learning; model benchmarking, validation, and comparison; explainable AI (LIME, SHAP, permutation, and tree-based feature importance); deep learning for computer vision; and time-series and weather-driven forecasting.
Computing	Python, including deep-learning implementation · JavaScript, HTML, CSS · Google Analytics 4, Tag Manager, Search Console, Looker Studio, Conversions API · WordPress development.
Engineering	Industrial automation design and implementation · engineering drawing and design · electronics product research and technical evaluation.

DOCTORAL RESEARCH INTERESTS

Each direction is already load-bearing somewhere in the record, Behavior a thesis, a paper, or years of operating the systems in question. Concept notes are available on request.

Transport	Whether switching vehicle type changes how the same individual drives, tested within-subject rather than between populations, and in mixed traffic where lane discipline is weakly enforced. Evidence base: MSc thesis [7].
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Behaviour	The gap between stated intention and observed behaviour for high-cost, infrequent purchases, and how advertising optimization systems reach targeting decisions where regulatory assumptions diverge from operational reality. Evidence base: interview and survey work in [3] and [5]; six years operating the systems.
Energy	Transition governance under scarcity in South and Southeast Asia, including rationing by outage against rationing by connection restriction. Evidence base: BSc thesis [8] and paper [6].
Infrastructure	The energy, water and material footprint of AI infrastructure, with attention to tropical siting and the Johor–Singapore cluster. Evidence base: [1] and [2], with grid-side training.

PROFESSIONAL EXPERIENCE

Engineering roles from 2013 to 2019, including four years as a research engineer, are listed under Research experience above. The roles below have run alongside that research record rather than replacing it: the MSc was completed in full during the 2019–2022 period, and publications appeared in 2021, 2024 and 2026.

Social Media & Content Manager, Paid Media 2024 – present

Black Swan Business Setup Services, UAE (remote)

- Designs and runs controlled experiments across five national markets; randomised creative, audience, and landing-page trials with outcomes and success criteria pre-specified before results are read.
- Builds and operates the measurement stack end to end: event schema design, Google Analytics 4, Tag Manager, server-side Conversions API, and Looker Studio reporting, the applied equivalent of instrument design and data pipeline construction.
- Analyses behavioural response at population scale: segmentation, attribution across touchpoints, and the recurring divergence between what respondents state and what they are observed to do.
- Operates the automated bidding and targeting systems that algorithmic-accountability research studies from the outside, which is the empirical basis of one of my research interests.
- Leads a team of creators, editors, and SEO specialists; negotiates data and measurement agreements with commercial partners.

Technical Writer · Marketing Manager · Assistant Manager 2019 – 2024

BuddyBoss (Canada) · STUDiLOG (Bangladesh) · Enzaime Bangladesh

- Developer documentation and structured pre-release software testing at BuddyBoss: reproducing defects against specification and reporting them in a form engineers could act on.
- Systematic competitor and market analysis; design and supervision of content research workflows; team leadership.
- At Enzaime Bangladesh, sector access to clinicians, patients, and digital-health platform staff, which is the field access behind the sole-authored study [5]. The MSc was completed in full over this same period.

LANGUAGES AND ADDITIONAL INFORMATION

Bengali	Native speaker; a working research capability for fieldwork, interviewing and primary-document access in Bangladesh.
English	Full professional proficiency; medium of instruction throughout secondary and higher education. IELTS Academic, overall band 7.0; the certificate lapsed in Jan 2026, and a retest can be arranged at short notice if a valid score is required.
Hindi	Good working proficiency in speech and comprehension; sufficient for interviewing and for South Asian source material.
Malay	Basic working familiarity, sufficient for regional source material with reference support.
Referees	Two academics and one professional referee are available on request.
Available	Immediately, and available to relocate. Seeking a funded doctoral position beginning 2027.