AKM Azad, Ph.D.

Associate Professor of Data Science & AI | Data Scientist | Public-Sector Analytics
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Nationality: Australian Premium Residency (PR): Saudi Arabia
Google Scholar (H-index: 25; Citations: 2855) LinkedIn Github

Professional Summary

- Associate Professor and interdisciplinary Bioinformatics and Data Science scholar with 12+ years of university teaching and research experience across Saudi Arabia and Australia. Expertise spanning bioinformatics, computational biology, multi-omics, machine learning, deep learning, artificial intelligence, Bayesian modelling, statistical genomics, and biomedical data science, with a strong record of applying computational methods to complex biological and health problems. Established research portfolio encompassing biomarker discovery, systems and network biology, transcriptomics, single-cell RNA-seq, cancer informatics, drug repositioning, and AI-driven biomedical discovery, supported by extensive interdisciplinary collaboration and peer-reviewed publications. Experienced academic leader with a strong record in competitive research funding, postgraduate supervision, curriculum development, teaching, and international research collaboration, including contributions to the Global Burden of Disease programme at IHME. Currently Associate Professor of Data Science, AI and Biostatistics at Imam Mohammad Ibn Saud Islamic University, with a research profile positioned at the intersection of bioinformatics, AI, computational biology, and translational health research.

Research Interests

- *AI/ML/DL-enhanced Big-Biodata analyses, Bioinformatics, Computational Biology, Machine learning, Deep learning, Data Science, Bayesian Methods, Bayesian Network, Host-Pathogen interaction, Multi-omics integration, Next-generation Sequencing data, Modelling and statistical analyses of Biological network, Bio-data Mining, biomarker discovery and Survival analysis, Global Burden of Diseases (GBD) etc.*

Education

2013 – 2017 **Ph.D. in Biostatistics & Artificial Intelligence**, School of Mathematical Sciences, **Monash University, Australia**.
Reviewers: Prof. Michael Stumpf (**Imperial College London, UK**) and Prof. Edmund Crampin (**University of Melbourne, AU**)

2010 – 2012 **Masters in Data Mining & Computational Biology**, Dept. of Information & Communications, **Gwangju Institute of Science & Technology, South Korea**

2003 – 2008 **BSc. in Computer Science & Engineering**, Dept. of Computer Science & Engineering, **University of Dhaka, Bangladesh.**

Research Funding: [Total awarded: 570K SAR; Total Pending: 6.5M SAR]

- **Onco-CDR: A Multi-Omics and Network Medicine Platform for Next-Generation Cancer Combination Therapy Discovery**, *RDIA, (Role: Principal Investigator; Budget: 2M SAR) [Under review].*
- **FoodCert.ai: AI-Empowered Video Surveillance for Automated Health Certificate Management in the Food Industry**, *Riyadh Municipality, (Role: Principal Investigator; Budget: 2.5M SAR) [Submitted].*
- **NovexSyn.ai: An End-to-End, Explainable, and multi-modal Deep Learning Framework for Synergistic Antiviral Prioritization Against Novel SARS-CoV-2 Variants**, *Saudi National Institute of Health (SNIH), (Role: Principal Investigator; Budget: 960K SAR) [Under review].*

Research Funding: [Total awarded: 570K SAR; Total Pending: 6.5M SAR] (continued)

- **AI-Driven Disruption of Extracellular Vesicle-Mediated Viral Tropism: A Novel Deep Learning Framework for Predicting and Targeting Alternate SARS-CoV-2 Entry Pathways**, *Saudi National Institute of Health (SNIH), (Role: CO-Principal Investigator; Budget: 923K SAR) [Under review].*
- **A Topological Mapper Agent for Survey Operations Quality Assurance - Detecting Illogical Survey Responses as Topological Discontinuities in a Continuously Maintained, Benchmarked Pipeline**, *General Authority for Statistics (GASTAT), (Role: Principal Investigator; Budget: 120K SAR) [Submitted].*
- **Disability Grant**, *King Salman Center for Disability Research, Grant No. (KSRG-2024-089).* (Role: Principal Investigator; Budget: 150K SAR) **[Completed]**
- **Disability Grant**, *King Salman Center for Disability Research, Grant No. (KSRG-2023-253).* (Role: Principal Investigator; Budget: 150K SAR) **[Completed]**
- **Research Partnership Program (RPP)**, *Deanship of Scientific Research at Imam Mohammad ibn Saud Islamic University (IMSIU), Saudi Arabia, Grant No. (IMSIU-RP23004).* (Role: Principal Investigator; Budget: 120K SAR)**[Completed]**
- **AI-driven crowd-hotspot prediction in Jamarat**, *Imam Mohammad ibn Saud Islamic University (IMSIU), Saudi Arabia* (Role: Principal Investigator; Budget: 37K SAR) **[Completed]**
- **Bayesian methods in causal model-based cancer bio-marker discovery**, *Deanship of Scientific Research, Imam Mohammad Ibn Saud Islamic University (IMSIU), Saudi Arabia, Grant No. (19-12-12-024).* (Role: CO-Principal Investigator; Budget: 18K SAR) **[Completed]**
- **Multi-modal similarity-based in silico combination-therapy prioritization for COVID-19 drugs**, *Deanship of Scientific Research, Imam Mohammad Ibn Saud Islamic University (IMSIU), Saudi Arabia, Grant No. (21-13-18-008)* (Role: CO-Principal Investigator; Budget: 30K SAR) **[Completed]**.
- **Stem cell therapies and benefaction of somatic cell nuclear transfer cloning in COVID-19 Era**, *Deanship of Scientific Research, Imam Mohammad Ibn Saud Islamic University (IMSIU), Saudi Arabia, Grant No. (21-13-18-029)* (Role: CO-Principal Investigator; Budget: 30K SAR) **[Completed]**.
- **Improving Health Outcome of People with Cardiovascular Diseases using Artificial Intelligence and Digital Health Technologies**, *Deanship of Scientific Research, Imam Mohammad Ibn Saud Islamic University (IMSIU), Saudi Arabia.* (Role: CO-Principal Investigator; Budget: 30K SAR) **[Completed]**

Academic Appointments

2022 – ongoing
- **Associate Professor (Data Science, AI, and Bio-statistics)**, Department of Mathematics & Statistics, Faculty of Science, and Deanship of Scientific Research (DSR) **Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia**. [**Role:** Writing grants (RDIA, SNIH, Riyadh Municipality, GASTAT, etc.) with AI and Data Science-empowered solutions for human health and community, Course curriculum development, Delivering lectures and conducting computer labs on various Statistics courses, including Biostatistics, Statistics for Engineering, Computer Science, Actuarial Sciences. **Tools:** Blackboard, Zoom, and MS Teams]

2025 – ongoing
- **Senior Collaborator for Global Burden of Disease (GBD Tier-2)**, Institute of Health Metrics and Evaluation, **University of Washington, United States**. [**Role:** Co-authoring Publications, Reviewing Data and Results, Providing Methodological Feedback, Scientific Consultation, Mentorship and Leadership, etc.

2019 – 2024
- **Lecturer - Level B (equivalent to Assistant Professor)**, Faculty of Science & Technology, **Swinburne University of Technology Sydney, Australia**. [**Role:** Delivering lectures and conducting computer labs on various IT courses, including Data Science, Big Data management and Database systems, Object Oriented Programming, etc. **Tools:** Canvas (Instructure), Zoom, and MS Teams]

Academic Appointments (continued)

2021 – 2022 **Senior Research Officer (Data Scientist)** *in ProCan, Cancer Data Science Group*, **Children's Medical Research Institute, Westmead, Australia**. [**Role:** Devising, delivering, and reporting solutions for Upstream and Downstream analyses of high-throughput Proteomics (DIA-MS) data, including data wrangling, QC analyses, differential analyses, network analyses, survival analyses, advanced visualization, etc. **Tools:** R and Python]

2020 – 2021 **Research Fellow** (*AI, Deep learning, Bioinformatics, Phylogenetics*), in iThree Institute, **University of Technology Sydney, Australia**. [**Role:** Devising Variational inference algorithms for Phylogenetic analysis of large-scale SARS-COV-2 genomic sequences. **Tools:** R and Python]

2018 – 2020 **Post-doctoral Research Associate** (*AI, Deep Learning, Bioinformatics*), School of BABS, **UNSW Sydney, Australia**. [**Role:** Devising Deep learning models for detecting functional effects of genomic variants in brain-specific disorders via integrating RNA-seq, ATAC-seq, Chip-seq, and PPI data. Implementing algorithms and R Shiny servers drug similarity database, Pathway data mining, Time-series analysis of SARS-COV-2 infection data, etc. **Tools:** R, Python, Jupyter notebook, Google Colab, PBS script, etc.]

2019 – 2020 **Bioinformatician**, Bill Walsh Lab, Kolling Institute of Medical Research, **University of Sydney, Australia**. [**Role:** Devising, delivering, and reporting solutions for Upstream and Downstream analyses of high-throughput RNA-seq data, including data wrangling, QC analyses, differential analyses, network analyses, survival analyses, advanced visualization, etc. **Tools:** R and Python]

2019 – 2019 **Online Facilitator**, **RMIT, Australia**. [**Role:** Tutoring various IT courses including Introduction to Programming using Python.]

2017 – 2018 **Post-doctoral Research Fellow** *in AI and Natural Language Generation*, **Monash University, Clayton, Australia**. [**Role:** Devising, delivering, and integrating natural language tools for Bayesian reasoning using the Bayesian network for the BARD project. **Tools:** Java, AgenaRisk, Netica]

2014 – 2018 **Teaching Associate**, at the **Faculty of IT, Monash University, Clayton, Australia** with different IT courses, including algorithms, programming, and research methodology-related courses. **Tools**: Moodle.

2013 – 2017 **PhD Researcher** *in AI, Biostatistics, and Computational Biology*, **Monash University, Clayton, Australia**. [**Role:** i) Deciphering the mechanisms of Breast cancer drug resistance via cell signaling cross-talks via Bayesian Methods, ii) Devising MCMC methods for Bayesian Network structure inference. **Tools:** R and C#.net]

2010 – 2013 **Researcher** & **Research Assistant** *in Bioinformatics and Computational Biology*, **Gwangju Institute of Science** & **Technology, Gwangju, South Korea**. [**Role:** Integration of gene expression, copy-number variation, and PPI data to find cancer-related modules from Glioblastoma. **Tools:** R and C#.net]

2009 – 2010 **Software Architect**, **BDCOM, Dhaka**, Bangladesh. **Tools:** C#.NET, ASP.NET

2009 – 2009 **Senior .NET Programmer**, **QusarBD, Dhaka**, Bangladesh. **Tools:** C#.NET

2008 – 2009 **Visual Studio .NET Programmer**, **SGCsoft.NET Pvt. Ltd., Dhaka**, Bangladesh. **Tools:** C#.net

Teaching (Data Science Specialization)

Program & Course Development (NCAAA standard)

- Lead, planed, and developed the executive **Masters program in Data Analytics** offered by Department of Mathematics & Statistics, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia [Under Review].

Teaching (Data Science Specialization) (continued)

- Designed the post-graduate course specification and curriculum titled: **Data Science in Finance and Insurance (AFM 6111)**, and lab curriculum title: **Actuarial Lab 2 (ACT 1453)**, offered by Department of Mathematics & Statistics, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- Course Coordinator of many data science related courses and laboratory curriculum in **Bachelor of Actuarial Science Program**, offered by Department of Mathematics & Statistics, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia

Training & Workshops

- **Data Science Fundamentals in R**, *All students and faculty members* [organized by the Deanship of Scientific Research (DSR)], Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.

Courses

- **Biostatistics**, *Undergraduate level*, **3 semesters**, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- **Probability and Statistics for Engineers**, *Undergraduate level*, **7 semesters**, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- **Introduction to Probability and Statistics**, *Undergraduate level*, **6 semesters**, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- **Probability and Statistics (1)**, *Undergraduate level*, **4 semesters**, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- **Mathematical Statistics**, *Undergraduate level*, **2 semesters**, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
- **Object Oriented Programming**, *Postgraduate level*, **6 semesters**, Swinburne University of Technology, Sydney, Australia.
- **Introduction to Data Science**, *Postgraduate level*, Swinburne University of Technology, Sydney, Australia.
- **Database Management Systems in BigData era**, *Postgraduate level*, **2 semesters**, Swinburne University of Technology, Sydney, Australia.
- **Intelligent systems**, *Postgraduate level*, **2 semesters**, Monash University, Australia.
- **Research methods in computer science** , *Postgraduate and undergraduate level*, **1 semester**, Monash University, Australia.
- **Discrete mathematics for computer science**, *Undergraduate level* **5 semesters**, Monash University, Australia.
- **Introduction to Programming**, *Undergraduate level*, **1 semester**, RMIT Online.
- **Introduction to computer science**, *Undergraduate level*, **1 semester**, Monash University, Australia.
- **Algorithms and programming**, *Undergraduate level*, **1 semester**, Monash University, Australia.
- **Algorithmic problem solving**, *Undergraduate level*, **2 semesters**, Monash University, Australia.
- **Techniques for modelling**, *Undergraduate level* **1 semester**, Monash University, Australia.

Roles and Responsibilities

- Lecturing, mentoring students, researching, developing, and implementing effective course contents and teaching plans.
- Facilitating both face-to-face and online lecturing and lab demonstration for various ICT-related courses both in postgraduate and undergraduate level.
- Managing online discussion boards and forums in *Canvas* and *Moodle* platforms.

Teaching (Data Science Specialization) (continued)

- Preparing and moderating exam questions, assignments and projects, marking, processing, and submitting assessment results.
- Engaging one-to-one consultation and supports to slow learning students.
- Participating admin meetings to discuss/evaluate course progresses with peers and mentors.
- Managing attendance and feedback.

Research Supervision and Mentorship

- **PhD Supervision**, **2 students**, Artificial Intelligence & Cyber Futures Centre, Rural Health Research Institute, Charles Sturt University, Australia.
  PhD Topics: *(1) Longitudinal and Network-Based Analysis of Maternal Lipid Metabolites in Relation to Early Pregnancy Risk Factors and Birth Outcomes; (2) Fetal Growth Trajectories Prediction*
- **Post-graduates and Undergraduates**, **8 students**, Faculty of Science, Imam Mohammad Ibn Saud Islamic University, Saudi Arabia.
  Course: *(1) Python for Data Science, AI & Development; (2) Machine Learning with Python; (3) Data Analysis with Python*
- **Research Associate**, Department of Robotics Engineering, University of Dhaka, Bangladesh.
  Research: *Closed-loop optimizer algorithm development for enhanced deep learning*
- **Research Associate**, School of BABS, UNSW Sydney, Australia.
  Research: *Deep learning models for Brain-specific disorders*
- **Research Associate**, School of BABS, UNSW Sydney, Australia.
  Research: *Drug Repositioning*
- **Research Associate**, School of BABS, UNSW Sydney, Australia.
  Research: *Biomarker Discovery*
- **Honuors Student**, School of BABS, UNSW Sydney, Australia.
  Research: *Role of Side-effects in Drug Repositioning*
- **Honuors Student**, School of BABS, UNSW Sydney, Australia.
  Research: *Cross-species biomarker discoveries using Dual-RNASeq data*
- **SVRP Student**, School of BABS, UNSW Sydney, Australia.
  Research: *Cell-identity mapping from massive single-cell data using deep learning*
- **SVRP Student**, School of BABS, UNSW Sydney, Australia.
  Research: *Deep learning for multi-omics integration*
- **MS Student**, Monash University, Australia.
  Research: *Discovering novel mechanisms of drug-resistance in malaria using systems biological approach*

Skills

Coding	R | Python | C#.Net | Java/J2EE | MATLAB | Shell Scripting.
Bioinformatics & Computational Biology Skills	Multi-omics integration (Genomics, RNA-seq, ATAC-seq, ChIP-seq, DIA-MS, PPI, etc.) | Biomarker discovery | Differential analysis | Network analysis | Time-to-event analysis | Time-series analysis | | Functional enrichment analysis | Bioconductor and scikit-learn packages | Computational cancer genomics.
High-performance computing	Google Cloud Platform (GCP) | Raijin/Gadi @NCI | Katana @UNSW | HPCC @UTS.

Skills (continued)

Big Data skills	GCP | Parallel programming for Multi-Node Multi-GPU | Deep learning with Pytorch & Keras | Nextflow | Docker | Split-and-merge.
Database skills	MongoDB | SQL Server | NoSQL | XQuery | JSON | Xampp | Oracle | MySQL | MS Access | ADO.Net | ODBC | OLE DB | SQLite
Web Dev	R Shiny App | ASP.Net MVC | REST | Web APIs | HTML5 | CSS3 | JavaScript | Jquery | Bootstrap.js | datatable | vis.js | D3.js | Ajax | XML | JSON | Xampp.
AI & Data Science Specialization	AI core specialist | Full-stack Data Scientist | Predictive Analytics | Large-language models | Generative AI | Deep Learning models | Federated learning, Supervised Learning, Unsupervised learning, Reinforcement learning, Transfer learning, Contrastive learning, Online learning & Ensemble learning | Transformers | Attention models | Foundation models | Few-shot learning & Zero-shot learning | Sequence-to-Function models | Causal Network Inference | Spatial Data Science | Survival analysis | Data mining & Wrangling | QC analysis
Visualization and Dashboarding	R shiny | Power BI | ggplot2, rPlotly, visNetwork, Leaflet (R package) | Plotly, Seaborne (Python library) | many others
Advanced Statistical Modeling Skills	Bayesian modeling | Statistical modeling (univariate + multivariate) | Bayesian Network | MCMC and Variational inference |
Optimization methods	Markov Chain Monte Carlo (MCMC) | Stochastic Gradient Descent | Variational Inference | WINBUGS | STAN
IDEs	VSCODE | MS Visual Studio | Eclipse | Xamarin | IntelliJ Idea | Xcode | RStudio | PyCharm.
Version Control	Git | GitHub | Bitbucket.
Development platforms	Windows | Linux | OSX | iOS.
Misc.	Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

Project Showcase

- **DrugSimDB**; URL: https://unsw-data-analytics.shinyapps.io/DrugRepo/; role: Lead developer, Method development, Data Mining, wrangling & analyses, Visualization, and UI development, deployment, and maintenance
- **COVID-19 Combination Therapy**; URL: https://unsw-data-analytics.shinyapps.io/COVID_CombTherap/; role: Lead developer, Method development, Data Mining, wrangling & analyses, Visualization, and UI development
- **COVID-19 TS**; URL: http://vafaeelab.com/COVID19TS.html; role: Lead developer, UI development, deployment, and maintenance
- **PathTurbEr**; URL: https://github.com/Akmazad/PathTurbEr; role: Lead developer, Method development, analysis, deployment, and Maintenance
- **KPGminer**; URL: https://github.com/Akmazad/KPGminer; role: Lead developer, Method and UI Development, Deployment, and Maintenance
- **BNMCMC**; URL: Lead developer, https://github.com/Akmazad/BNMCMC-Server; role: Method and UI Development, Deployment, and Maintenance

Project Showcase (continued)

- **XTalkiiS**; URL: Lead developer, https://github.com/Akmazad/XTalkiiS; role: Method and UI Development, Deployment, and Maintenance

Academic Leadership & Professional Memberships

- **Guest Editor, Diagnostics, MDPI**
- **GBD Senior Collaborator, Institute for Health Metrics and Evaluation, Washington, US**
- **COVID19 Expert, Australian Academy of Science**
- **Bioinformatics Editor, WebmedCentral, UK**
- **Peer Reviewer, Briefings in Bioinformatics (BiB), Oxford Academic**
- **Peer Reviewer, PLoS One, Public Library of Science**
- **Peer Reviewer, Artificial Intelligence Review (AIRE)**
- **Peer Reviewer, BMC Bioinformatics**
- **Peer Reviewer, BMC Supplements**

Presentations and Invited talk

2024 — Conducted & lead a training session titled "**Data Science Fundamentals in R**" for all the students and faculty members in **Imam Mohammad Ibn Saud Islamic University, Saudi Arabia** [organized by the Deanship of Scientific Research (DSR)].

2021-2022 — Presented many seminar talks at the **CMRI, Sydney** on upstream and downstream analyses involving DIA-MS Proteomics, Genomics, transcriptomics, and Interactomics data.

2019 — Presented a seminar talk at the **School of Biotechnology & Biomolecular Sciences** (University of New South Wales, Australia) on deep learning-based functional effect prediction of brain-specific noncoding variants

2017 — Presented a seminar talk at the **Monash Bioinformatics Platform** (Monash University, Clayton, Australia) on computational modelling and characterisations of signalling cross-talks in acquired drug resistance

2014 — Presented a poster at the **ICSB 2014** - 15th International Conference on Systems Biology, Melbourne, Australia

2011 — Presented a poster at the **GIW 2011** - 22nd international conference on genome informatics, Busan, South Korea

Miscellaneous Experience

Awards

2021 — **Recognition of Teaching Excellence**, Swinburne University of Technology Sydne, Australia.

2017 — **Post Publication Award (PPA)**, Monash University, Australia.

2013 — **Monash IPRS scholarship (MIPRS)**, Monash University, Australia.

- **Monash Graduate Scholarship (MGS)**, Monash University, Australia.
- **Departmental Top-up Scholarship**, School of Mathematical Sciences, Monash University, Australia.
- Travel grants from Monash University, Australia for presenting research works in domestic and international conferences.

Miscellaneous Experience (continued)

2010 — Financial supports scholarship from GIST, South Korea, for MS research students through Research Assistantships, tuition assistance, and monthly stipends.

1998–2003 — Bangladesh government scholarships for outstanding results in HSC (higher secondary school), SSC (secondary school certificate), and JSC (junior school certificate) exams..

Media Coverage

2025 — **Editors' choice - Diagnostics Journal**, Covering our work of Explainable Federated Learning for Multi-Class Heart Disease Diagnosis via ECG Fiducial Features (https://www.mdpi.com/journal/diagnostics/editors_choice).

2016 — **Monash University website**, Covering the success story of our algorithm for causal network inference.

2015 — **Editors' pick - BMC Systems Biology Journal website**, Covering our work of drug-resistive cross-talk prediction in breast cancer.

Research Publications

Full papers - by year

1. Collaborators, G. 2. M. Ã. R. (2026, May). Global, regional, and national burden of meningitis, its risk factors, and aetiologies, 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet Neurology***, *25*(5), 451–468. doi:10.1016/s1474-4422(26)00101-8

2. Al Siam, A., Faruqui, N., Azad, A., & Moni, M. A. (2026). Securing the unseen: a comprehensive exploration review of ai-powered models for zero-day attack detection. ***Expert Systems***, *43*(3), e70217.

3. Arifuzzaman, M., Ahmed, S. S., Khaled, M. A., Siddiq, S. Y., Barua, P., Paul, S., … Alluqmani, A. E. (2026). Predicting the strength of waste aggregate concrete blocks using novel hybrid machine learning models and graphical user interface deployment. ***Scientific Reports***.

4. Asa, T. A., Hossain, M. A., Ali, M. S., Mahmud, M. Z., Azad, A., Rahman, M. Z., & Moni, M. A. (2026). Unraveling risk factors and transcriptomic signatures in liver cancer progression and mortality through machine learning and bioinformatics. ***Briefings in Functional Genomics***, *25*, elaf019.

5. Bhangdia, K., May, M. L., Kocarnik, J. M., Pritchett, N., Crist, A., Penberthy, L., … Ababneh, H. S. et al. (2026). Global, regional, and national burden of breast cancer among females, 1990–2023, with forecasts to 2050: a systematic analysis for the global burden of disease study 2023. ***The Lancet Oncology***, *27*(3), 302–326.

6. Faith, J., Martopullo, I., Arndt, M. B., Letourneau, I. D., Aalruz, H., Abaraogu, U. O., … Abdulah, D. M. et al. (2026). Global, regional, and national levels and trends in maternal mortality, progress towards the sustainable development goals, and mortality from covid-19 infection in pregnant women, 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet Obstetrics, Gynaecology, & Women's Health***, *2*(5), e375–e424.

7. Hasan, M. M., Azad, A., & Hasan, M. M. (2026). Spark: a stochastic optimizer for fast convergence in neural network. *Available at SSRN 6556339*.

8. Hossain, T., Ali, M. Y., Riti, F. A., Paul, A. C., Jamal, M. A. H. M., Tohura, U. S., … Azad, A. (2026). Integrated pan-cancer systems biology and structure-based simulation identifies annona muricata–derived natural scaffolds as putative ido1 modulators for cancer immunotherapy. ***Computational Biology and Chemistry***, 109234.

9. Khandaker, S., Rahman, M. M., Azade, A., Moni, M. A., & Hossain, M. A. (2026). Transparent deep learning for medicinal plant recognition: a hybrid cnn–vit approach with explainable ai on bdherbalplants. ***Smart Agricultural Technology***, 101862.

10 Knight, M., Bienhoff, K., Ababneh, H. S., Abbasi, M., Dolatabadi, Z. A., Abbasifard, M., … Abdelkader, A. et al. (2026). Measuring the composition and availability of human resources for health by sex in 204 countries and territories, 1990–2023, and workforce gaps for universal health coverage: a systematic analysis for the global burden of disease study 2023. ***The Lancet Public Health***, *11*(9), e604–e629.

11 Ledesma, J. R., Zhang, M., Liew, M. F., Dominguez, R.-M. V., Whikehart, S. M. L., Verma, M., … Ostroff, S. M. et al. (2026). Global, regional, and national burden of tuberculosis and multidrug-resistant tuberculosis by hiv status, 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet infectious diseases***.

12 Molokhia, M., de la Torre, J. A., Wang, Y., Collaborators, G. 2. L. C. et al. (2026). Global burden of elevated ldl-c: findings from the global burden of disease study 2023. ***JAMA***.

13 Nasrin, A., Asif, M. B., Naidu, R., Asif, A. H., Chohan, M. S., Khan, G. A., … Martuza, M. A. (2026). An optimized and explainable machine learning framework for diabetes prediction using marine predators algorithm and shap. ***Journal of Personalized Medicine***, *16*(8), 423.

14 Nasrin, A., Asif, M. B., Zahra, F. T., Asif, A. H., Khan, G. A., Arifuzzaman, M., … Martuza, M. A. (2026). A lightweight vision transformer and retinal biomarker fusion framework for early glaucoma detection: toward improved clinical screening. ***Journal of Clinical Medicine***, *15*(14), 5651.

15 Nobel, S. N., Swapno, S. M. R., Azad, A., & Moni, M. A. (2026). A positional transformer-based encoder-decoder network for segmentation of the gastrointestinal tract. ***Expert Systems with Applications***, 132260.

16 Qureshi, M., Azad, A., Iftikhar, H., & Rodrigues, P. C. (2026). Toward explainable precision nephrology: machine learning-based chronic kidney disease prediction. ***Biomedicines***, *14*(7), 1459.

17 Sarker, G. C., Azad, A., Rahman, S., & Hasan, M. M. (2026). Vlm-nav: mapless uav navigation using monocular vision driven by vision-language models. ***Plos one***, *21*(4), e0345778.

18 Sikandar, T., Hasan, M. T., Azad, A., Khan, A., & Moni, M. A. (2026). Ai-enabled clinically aligned fewer-lead ecg approaches for detecting cardiovascular diseases. ***Artificial Intelligence Review***.

19 Sirota, S. B., Bender, R. G., Dominguez, R.-M. V., Movo, A., Swetschinski, L. R., Araki, D. T., … Carter, A. et al. (2026). Global burden of lower respiratory infections and aetiologies, 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet infectious diseases***, *26*(4), 343–361.

20 Van Der Lubbe, S. C., Moberg, M. E., Aluquin, D., Zhou, Y., Lenox, H., Aalruz, H., … Abdelwahab, S. I. et al. (2026). Global, regional, and national burden of road injuries 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet Public Health***.

21 Vongpradith, A., Dominguez, R.-M. V., Car, L. T., Movo, A., Ostroff, S. M., He, J., … Aalruz, H. et al. (2026). Global burden of enteric infectious diseases, diarrhoeal diseases, and corresponding aetiologies, 1990–2023: a systematic analysis for the global burden of disease study 2023. ***The Lancet Infectious Diseases***.

22 Khatun, M. A., Yousuf, M. A., Turna, T. N., Azad, A., Alyami, S. A., & Moni, M. A. (2025, February). A multi-agent and attention-aware enhanced cnn-bilstm model for human activity recognition for enhanced disability assistance. ***Diagnostics*** *[**Q1**]*, *15*(5), 537. doi:10.3390/diagnostics15050537

23 Aref, A. T., Grealey, J., Pathan, M., Noor, Z., Anees, A., Azad, A., … Koh, J. M. et al. (2025). Mapping the proteomic landscape of pancreatic cancer: prognostic insights and subtype stratification. ***Cancer Research Communications***, *5*(10), 1879–1893.

24 Haque, M. E., Arifuzzaman, M., Khan, K., Azad, A., Alluqmani, A. E., & Kashem, A. (2025). Machine learning models for mechanical properties prediction of basalt fiber-reinforced concrete incorporating graphical user interface. ***Scientific Reports***, *15*(1), 37029.

25 Haque, M. E., Tajwar, A., Azad, A., Alyami, S. A., & Hasan, M. M. (2025). Design and evaluation of adanet: a high-fidelity motion acquisition framework for assistive gesture-based interfaces. ***IEEE Access***, *13*, 133035–133052.

26 Hasan, N., Rana, M. M., Hasan, M. M., Azad, A., Afroz, D., Komol, M. M. R., … Moni, M. A. (2025). Stsa-based early-stage detection of small brain tumors using neural network. ***Engineering Reports*** *[**Q3**]*, *7*(5), e70135.

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