Niladry Chowdhury

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Professional Summary

Healthcare data analytics researcher with experience using artificial intelligence, predictive analytics, and machine learning to improve diagnostic support, strengthen clinical decision-making, and enhance healthcare system performance. Contributed to peer-reviewed healthcare analytics research, IEEE conference publications, and patented healthcare technology innovations. Research interests include oncology analytics, clinical decision support systems, predictive modeling, healthcare operations optimization, and privacy-preserving artificial intelligence. Committed to developing practical and scalable analytical solutions that improve patient outcomes, healthcare delivery, and data-driven decision-making.

Research Interests

- Healthcare Data Analytics and Artificial Intelligence
- Clinical Decision Support Systems (CDSS)
- Predictive Analytics for Disease Risk Assessment
- Healthcare Systems Performance Optimization
- Public Health Analytics and Data-Driven Decision Making

Skills

Data Science & Machine Learning: Deep Neural Networks, Predictive Modeling, Federated Learning

Statistical Computing & Analytics: Python, R, SQL, Statistical Modeling

Healthcare Analytics & Decision Support: Clinical Decision Support Systems (CDSS), Healthcare Data Analytics

Research & Analytical Competencies: Quantitative Research Methods, Big Data Analytics

Education

Master of Science in Business Analytics

Trine University, Indiana, USA

Bachelor of Science in Mathematics

National University, Bangladesh

Selected Publications

1. Alam, M. F., Iqbal, M. A., Emon, S. B., Rafid, S. T. S., **Chowdhury, N.**, & Alam, M. A. (2026). AI-Assisted Prognostic Classification in Breast Cancer Using Deep Neural Networks. 2026 7th International Conference on Mobile Computing and Sustainable Informatics (ICMCSI), 11412414. https://doi.org/10.1109/ICMCSI67283.2026.11412414
2. Hasan, M. R., Gazi, M. D. H., Yeasmin, T., Alfi, I. A., Al Mamun, M. A., Mia, M. R., do Carmo, E. B., **Chowdhury, N.**, Kamal, M. A. T., & Munifa, N. K. (2026). Applications of AI-Assisted Liquid Biopsy for Early Cancer Detection and Treatment Monitoring: A Systematic Review of Current Evidence. International Journal of Drug Delivery Technology, 16(60s). Special Issue Supplement. https://ijddt.com/volume16issue60s/
3. Kamal, M. A. T., Shikha, S. A., Munifa, N. K., do Carmo, E. B., Rahman, K. A., John, D. B., Azad, A., Mia, M. R., Biswas, A., & **Chowdhury, N.** (2025). AI-Driven Mendelian Randomization for Biomarker Discovery in Rheumatoid Arthritis: A Systematic Review of Precision Medicine Approaches. Journal of Carcinogenesis, 24(10s). https://doi.org/10.66838/J.Carcinog.24.10s.758-771
4. Nashid, S., Papia, S. K., **Chowdhury, N.**, Mia, M. S., & Hossain, M. I. (2023). Advanced Business Analytics in Healthcare: Enhancing Clinical Decision Support and Operational Efficiency. Business and Social Sciences, 1(1), 1–8. https://doi.org/10.25163/business.1110345
5. **Chowdhury, N.**, Mia, M. S., Hossain, M. I., Papia, S. K., & Nashid, S. (2023). Integrating Business Analytics into Public Health Management: A Data-Driven Approach. Business and Social Sciences, 1(1), 1–7. https://doi.org/10.25163/business.1110346
6. Akhir, A., Rahman, F., Islam, A., **Chowdhury, N.**, Mia, M. S., & Hossain, M. I. (2024). Strategic Role of Business Analytics in Healthcare Systems Performance Optimization. Journal of Primeasia, 5(1), 1–8. https://doi.org/10.25163/primeasia.5110347
7. Hoque, M. E., Nurani, B., **Chowdhury, N.**, Rahaman, M. S., & Amin, M. M. (2025). Business Analytics in the Era of Big Data: Driving Informed Decision-Making. Open Access Library Journal, 12, e12887. https://doi.org/10.4236/oalib.1112887
8. Hossan, T., Haque, B. M. T., Sakib, M. S., **Chowdhury, N.**, & Amin, M. M. (2025). Ethical Challenges in Business Analytics: Balancing Data Privacy and Profit. Open Access Library Journal, 12, e12957. https://doi.org/10.4236/oalib.1112957

9. Mia, M. S., Md Iqbal Hossain, Ispita Jahan, **Chowdhury, N.**, & Sonia Nashid. (2025). Smart Supply Chains Applying AI-Based Business Analytics for Operational Efficiency. Paradise, 1(1), 1–8. https://doi.org/10.25163/paradise.1110383

Patents and Innovations

Analytics-Driven Clinical Decision Support Medical System
UK Design Patent – Granted (April 2026)
Design No: 6504594 | UK Intellectual Property Office
Co-inventors: Shomitro Kumar Ghosh, Sufi Ahmed Hamim
Developed a healthcare system design integrating analytics-based decision support to improve clinical workflow efficiency and diagnostic assistance.

Industrial Automated Processing and Pattern-Application Machine
UK Design Patent – Granted (Nov 2025)
Design No: 6484395 | UK Intellectual Property Office
Co-inventors: Anik Biswas, Md Imran Khan
Designed an automated industrial system to improve production consistency and operational efficiency through pattern-based processing.

Software & Technical Contributions

ClinicPulse Analytics – Healthcare Operational Intelligence Platform (2026–Present)

Independent Research & Software Development

• Developed an independently deployed healthcare operational intelligence platform for healthcare claims analytics, revenue cycle monitoring, operational performance measurement, predictive analytics, and executive decision support using React, Vite, and JavaScript.

• Implemented interactive dashboards, claims intelligence, revenue leakage analysis, CSV-based healthcare data ingestion, operational health scoring, and executive reporting modules.

• Publicly deployed through Vercel, maintained under version control on GitHub, and archived as a citable software release through Zenodo (DOI: 10.5281/zenodo.21007504).

Project Resources

GitHub: https://github.com/niladry-ch/niladry-ch-clinicpulse-healthcare-analytics

Live Demo: https://niladry-ch-clinicpulse-healthcare-a.vercel.app

Software DOI: https://doi.org/10.5281/zenodo.21007504

Professional Experience

Financial Analyst

Jamil Incorporated |Warren , MI , USA

Experience completed under Curricular Practical Training (CPT)

- Conducted financial and operational data analysis to identify performance trends and improvement opportunities.
- Developed dashboards and reporting solutions to support data-driven decision-making.
- Performed forecasting and analytical modeling to support business planning and performance evaluation.
- Contributed to business intelligence initiatives focused on operational efficiency and performance optimization.

LEADERSHIP, REVIEW & PROFESSIONAL AFFILIATIONS

Editorial Board Member— Journal of Business and Management Studies.

Peer Reviewer— Business and Social Sciences

Peer Reviewer: Journal of Carcinogenesis

Member —IIBA® (International Institute of Business Analysis)

Member — IEEE

Awards And Recognition

International Royal Golden Award — Best Research Data Analyst — Eudoxia Research University | 2025

- Awarded for excellence in research data analytics and contributions to academic research initiatives

Best Volunteer Award — Scientific Research BD | 2025

- Recognized for outstanding volunteer contributions and community impact

Volunteer Experience

Volunteer Gardener — HUDA Clinic | Detroit, MI, USA

- Supported a nonprofit healthcare clinic by maintaining green spaces and outdoor areas for patient use
- Contributed to improving the clinic environment and community engagement initiatives

Certifications

- Business Analytics Foundations: Predictive, Prescriptive, and Experimental Analytics.
- Business Analytics Foundations: Descriptive, Exploratory, and Explanatory Analytics.
- Data Visualization and Dashboards with Excel and Cognos.
- Data Analysis with R.