

SHOHINUR PERVEZ SHOHAN

Computer Science and Engineering Graduate | Machine Learning and Data Analysis

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PROFESSIONAL SUMMARY

Computer Science and Engineering graduate with applied experience in machine learning classification, satellite remote sensing, and data analysis. Independently extended an undergraduate thesis into a peer-reviewed conference submission, applying rigorous spatial validation to three decades of land-cover data. Seeking admission to the Master's programme in Artificial Intelligence and Data Processing at Masaryk University to build formal depth in AI methods, with the goal of applying environmental machine learning to large-scale monitoring challenges in Bangladesh.

EDUCATION

Rangamati Science and Technology University (RMSTU) — Rangamati, Bangladesh

Graduated February 2025

B.Sc. in Computer Science and Engineering · Faculty of Science, Engineering and Technology

CGPA: 3.21 / 4.00 · Undergraduate thesis graded A+

RESEARCH

Multi-Decadal Land-Cover Mapping of the Chittagong Hill Tracts Using Machine Learning and Spatial Validation

Submitted to ICCIT 2026 (double-blind peer review) — currently under review

- Originated as the B.Sc. thesis (2024, graded A+) on machine-learning classification of deforestation from Landsat satellite imagery, then **independently extended in 2026 into a full conference paper without institutional funding or supervision**, rebuilding the entire pipeline with free and open-source tools (Google Earth Engine, Python, QGIS).
- Compared three classification algorithms under spatially-blocked holdout validation — Support Vector Machine (78.04%), Random Forest (77.10%), and CART (72.90%) — and benchmarked against the Hansen Global Forest Change dataset for independent validation.
- Reported area-adjusted 2023 classification accuracy of 73.17% (95% CI: 64.34–82.00%); found that combined forest area increased 4.4% (+20,693 ha) between 1993 and 2023 while Dense Forest area declined by 8,235 ha — a more nuanced outcome than a single headline figure.
- Released the complete code and data pipeline publicly on GitHub to support reproducibility.

Ongoing Research — Energy-Efficient AI

In progress — targeting a Q2 journal (Sustainable Computing: Informatics and Systems)

- Measuring whether FLOPs reduction from post-training model compression (INT8/INT4 quantization, 30–70% structured pruning) translates into real energy savings, using hardware-level power measurement (Intel RAPL, Apple powermetrics) rather than proxy metrics.
- Evaluating three lightweight vision models (ResNet-18, MobileNetV3-Small, EfficientNet-B0) on CIFAR-10 across two hardware platforms.
- Protocol and hardware setup complete; experimental runs currently underway.

Research interests: sustainable AI, environmental machine learning, and efficient data-driven approaches for large-scale monitoring applications.

Research Methods and Skills

- Machine learning classification: Random Forest, Support Vector Machine, CART
- Remote sensing and satellite imagery analysis · Spatial data processing (Google Earth Engine, QGIS)
- Statistical validation: spatially-blocked holdout, area-adjusted accuracy, sensitivity analysis
- Reproducible research workflow: open-source tooling, public code release

PROFESSIONAL EXPERIENCE

IT Support Assistant — Pro Better Life Bangladesh, Rangamati, Chattogram

June 2025 – Present

- Diagnose and resolve software, hardware, and network faults across the organisation, applying systematic troubleshooting to reduce recurring downtime.
- Maintain local network infrastructure and system availability for daily operations.

- Advise end-users and produce written technical documentation, translating technical detail into clear guidance for non-specialists.

Data Analytics Intern — Codveda Technologies (Remote)

April – May 2025

- Analysed and interpreted datasets, identified patterns and trends, and supported data-driven reporting.

Data Analytics Intern — Intern Intelligence (Remote)

March – April 2025

- Conducted analytical problem-solving on structured datasets and prepared summary insights.

PROJECTS AND INDEPENDENT WORK

Independent Data Analysis Projects — *Python; code published on GitHub*

- **Retail Analytics Project** — applied statistical hypothesis testing to validate a 12% sales uplift.
- **iFood Campaign Analysis** — performed customer segmentation and evaluated campaign effectiveness.
- **Student Performance ML Analysis** — built regression and clustering models to identify performance drivers.
- **Freelancer Market Analysis** — examined pricing trends and factors associated with success.

Academic Projects

- **Online Exam Proctoring System** — designed an OpenCV-based monitoring tool for remote examinations.
- **Automated Smart Home System** — developed an IoT solution integrating sensors with device control.
- **Point-of-Sale Software for a Technology Retailer** — implemented billing, inventory, and automated sales reporting.

TECHNICAL SKILLS

Programming: Python, Java, SQL

Tools and Platforms: Google Earth Engine, QGIS, OpenCV, Power BI, Excel, Git and GitHub

Domains: Machine learning, data visualisation, statistical analysis, IT support

CERTIFICATIONS AND LANGUAGES

Certifications

- Google Data Analytics Professional Certificate — Coursera
- Python Programming — Stanford University, Code in Place
- Data Analyst with Python — DataCamp
- Microsoft Excel — 10 Minute School

Languages

Bangla — mother tongue · **English** — IELTS 6.5 (CEFR B2) · **Hindi** — conversational · **Japanese** — JLPT N5 (August 2026)

LEADERSHIP AND VOLUNTEER ACTIVITIES

- **Volunteer, Volunteers for Bangladesh (VBD)** — contributed to community and environmental initiatives.
- **Participant, National Debate Federation (NDF)** — developed public speaking and structured argumentation.
- **Awardee, Bangabandhu Adventure Festival** — recognised for teamwork and resilience under demanding conditions.