

MD MOZAMMEL HOQUE

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Toronto, Ontario

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SUMMARY

Remote Sensing & GIS specialist with **10+ years** of experience spanning ecosystem analysis, forest monitoring, and machine-learning-driven geospatial research. Possesses a multi-disciplinary academic background (environmental sciences, geomatics, statistics) and a record of international project leadership, publication, and undergraduate-level instruction.

CORE COMPETENCIES

- Advanced analysis of climatology, field, UAV, and multispectral satellite data (ArcGIS Pro, ENVI, PCI Geomatica)
- ML and AI pipelines for land-cover classification and forest-degradation indicators (SVM, ANN, LandTrendr)
- 5+ years university teaching in statistics, GIS, and remote sensing; lab-manual development (ENVI, GEE)
- Wildfire-science principles, fire-behaviour modelling, and forest-disturbance ecology
- Remote-area field campaigns; UAV & spectrometer maintenance; chain-of-custody data logging
- Lean Six Sigma, TQM, and ISO 9001 / 14001 quality-management frameworks
- Project design, stakeholder engagement, and cross-cultural leadership (FAO, Canadian Forest Service, NGO partners)

EDUCATION

PhD, Environmental and Life Sciences

2023

Trent University

Peterborough, ON, Canada

Thesis: *Development of Forest Degradation Indicators from Long-term Trajectories of Multispectral Satellite Images and their Projections into the Future under Climate Change*

MPhil

2004

University of Natural Resources and Life Sciences (BOKU)

Vienna, Austria

Professional Master's in Geoinformation Science and Earth Observation

2000

University of Twente

Enschede, Netherlands

Specialization: Rural Development and Resource Management

M.Sc. in Statistics

1985

University of Chittagong

Chittagong, Bangladesh

Thesis: *Production Analysis of Small Industries*

Diploma, Network Administration & Information System Security

2010

Canadian Institute of Learning

Ontario, Canada

PROFESSIONAL EXPERIENCE

Research Associate / Data Analyst

2023–Present

Applied Geomatics, Remote Sensing & Land Resources Lab, Trent University

Peterborough, ON, Canada

- Analyse long-term climatology and multispectral satellite/UAV datasets to quantify forest-degradation trends across Ontario.
- Produce sub-10 m land-cover classifications (overall accuracy > 92%) and co-author peer-reviewed manuscripts.

Graduate Teaching Assistant / Lab Demonstrator

2015–2023

School of the Environment, Trent University

- Supported courses: Natural Science Statistics (GEOG-2080H); Introduction to GIS (GEOG-2090H); Remote Sensing of the Environment (GEOG-ERS-3020H).
- Updated laboratory manual to integrate ENVITM and Google Earth Engine workflows; delivered weekly labs and tutorials.

Owner

Hydra Leatherland Inc.

2011–2014

Toronto, ON, Canada

- Established and managed all aspects of a small manufacturing/retail business, including operations, logistics, and customer relations.
- Supervised a multicultural team, coordinated hiring and training, and maintained quality assurance standards.
- Oversaw inventory control, vendor negotiations, and procurement of materials, ensuring cost-effective supply chain management.
- Managed business finances, budgeting, and payroll, and implemented improvements that increased operational efficiency.
- Maintained compliance with local regulations and health/safety standards.

Quality Assurance

Progressive Moulded Products & Lite Products Inc.

2004–2008

Vaughan/Mississauga, ON, Canada

- Conducted ISO-compliant quality audits, LAN support, and data reporting using RDMS (Access).
- Provided Tier-1 help-desk and LAN administration for >150 users, lifting first-call resolution to 85 %.

Statistician

Bangladesh Forest Research Institute (BFRI)

1990–2004

Chittagong, Bangladesh

- Directed the BFRI Computer Centre (~ 50 researchers daily); data collection for national forest-inventory surveys and GIS databases.
- Led FAO-funded GIS/RS project on mountain-development; produced land-use change maps and trained local native communities.

CERTIFICATIONS & PROFESSIONAL TRAINING

Quality Assurance & Management - Sheridan Institute of Technology, Canada, 2006

Advanced Certificate in Digital Geography & GIS - Toronto Metropolitan University, Canada, 2005

Software Engineering - Vienna University of Technology, Austria, 2003

Accuracy Assessment of Remote-Sensing Products - Lund University, Sweden, 2000

TECHNICAL SKILLS

GIS/RS: ArcGIS Pro, ArcView, PCI Geomatica, ENVI, ERDAS Imagine, MapInfo, ILWIS, Trimble eCognition, LandTrendr

Programming: Python, R, C++, Visual Basic, IDL, ArcView Avenue

Statistics: SAS, SPSS, GENSTAT

Databases: Oracle, Access, Paradox

Office & Misc.: Word, Excel, PowerPoint, Visio

SELECTED PUBLICATIONS & PRESENTATIONS

Projection of Future (2050) Forest Degradation under Climate Change in Central & Eastern Ontario, Canada. *4th TIES North American Regional Meeting*, Trent University, 2023.

Evaluation of the Accuracy of Multispectral Land-Cover Classification Algorithms: Comparison of Machine Learning, Maximum Likelihood, and Mahalanobis Distance Algorithms. Submitted to *International Journal of Remote Sensing*, 2025.

Forest Degradation Indicators under a Changing Climate in Central & Northeastern Ontario, Canada. *44th Canadian Symposium on Remote Sensing*, 2023.

Financial Analysis of *Eucalyptus camaldulensis* Plantation in Bangladesh. *Bangladesh Journal of Forest Science*, 1999.

PAPERS IN PREPARATION

Remote Sensing Tracking of Climate-Change Impacts on Forest Degradation (Ontario) • Projection of Long-term Forest Degradation Trajectories under Climate Change • Forest-Degradation Indicators for Predicting Future Conditions (Ontario)

AWARDS & SCHOLARSHIPS

Dean's PhD Scholarship, Trent University (2015-2018)
FAO Scholarship for Professional Master's (1999-2000)
Austrian Government Scholarship for MPhil Coursework (2000-2004)
ITC/University of Twente - First in Specialization (2000)

LEADERSHIP & MEMBERSHIPS

- President (volunteer), Kawartha Muslim Religious Association, Peterborough
- Advisor, Chittagong University Alumni Association of Canada Inc.
- International Student Representative, BOKU (elected), 2001–2003
- Member, Canadian Remote Sensing Society; Climate-change event organiser, Peterborough/Kawartha Lakes Region

REFERENCES

Prof. Raul Ponce-Hernandez – Director, Applied Geomatics, Remote Sensing & Land Resources Lab, Trent University

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Dr. Carey Gibson – ex-Remote Sensing Specialist, Ontario MNRF

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Dr. Trevor Jones – Research Scientist, Canadian Forest Service

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