

# MD ANIS SARKER

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## EDUCATION

<b>Independent University, Bangladesh</b> Bachelor of Science, Computer Science <b>Thesis:</b> Land Use and Land Cover Segmentation of RGB Satellite Images using Deep Neural Network	2015 - 2019 CGPA: 3.14/4.00
<b>Harvard International College, Dhaka, BD</b> Higher Secondary Certificate, Science	2013 GPA: 4.90/5.00
<b>Kalachandpur High School, Dhaka, BD</b> Secondary School Certificate, Science	2011 GPA: 4.81/5.00

## RESEARCH AND INDUSTRY EXPERIENCE

<b>Acme AI (TrackBox)</b> <i>Full Stack Developer</i>	October 2025 - Continue Dhaka, BD (Belgium)
Engineered sophisticated annotation and calibration tools using OpenCV and React, implementing complex homography transformations, 2D field mapping, and tactical camera configurations to ensure precise player tracking and spatial data accuracy. Architected a robust backend using Flask, PostgreSQL, and SQLAlchemy, managing secure Google Cloud Storage (GCS) integrations, automated database migration workflows, and high-performance API endpoints for real-time data processing. Developed responsive, data-intensive interfaces in Angular and React, implementing advanced features like RxJS patterns, Pan/Zoom toolbars with coordinate-clamping logic, and complex JSON-driven configuration tools to synchronize frontend state with backend CV models.	
<b>Center for Computational and Data Sciences, IUB</b> <i>Research Assistant</i>	May 2019 - December 2021   August 2025 - Continue Dhaka, BD
Developed deep learning models for <b>urban categorization</b> in collaboration with the University of Tokyo and United Nations University. Led a team in satellite image segmentation, creating a dataset for Dhaka city. Conducted geospatial analysis using QGIS and applied deep learning for <b>land use and land cover</b> segmentation. Created a disaster response prototype, using deep learning to identify <b>salient features</b> for improved management.	
<b>Neuronyx AI</b> <i>Artificial Intelligence Engineer</i>	February 2025 - Continue Dhaka, BD
Building a <b>Chatbot</b> for customization food ordering powered by large language models.	
<b>Bista Solutions Inc.</b> <i>Machine Learning Engineer</i>	June 2024 - January 2025 Dhaka, BD
Built a <b>Copilot solution</b> for ERP systems that translates natural language queries into SQL and ORM code using LLMs, streamlining data access and analysis. Collaborated with stakeholders to align ML solutions with business goals, enhancing ERP usability and efficiency.	
<b>AinoviQ IT Ltd.</b> <i>Artificial Intelligence Engineer, Team Lead</i>	February 2022 - May 2024 Dhaka, BD
Developed and implemented <b>GAN</b> models for training, testing, and deployment as part of the <b>Virtual Try-On</b> solution. Conducted a thorough literature review to identify optimal models and methods. Collected clothing data using Python-based web scraping tools and created tailored datasets for background removal, pose estimation, and keypoint extraction. Integrated the GAN models into an <b>MLOps</b> pipeline using PyTorch for efficient training, evaluation, and deployment. Deployed the solution via Flask, providing API-based access to the try-on model.	
<b>Independent University, Bangladesh</b> <i>Student Researcher</i>	2018 - December 2021 Dhaka, BD
Satellite data to develop deep learning models for Building Categorization <i>Supervised by Dr. AKM Mahbubur Rahman, Prof. Ryosuke Shibasaki (University of Tokyo)</i>	
Remote Sensing Data to Develop Deep Learning Models for Land Use Land Cover Semantic Segmentation <i>Supervised by Amin Ahsan Ali, PhD, and Dr. AKM Mahbubur Rahman</i>	

## PUBLICATIONS

BOLM high resolution land use and land cover dataset and benchmark results for the rapidly developing City of Dhaka Bangladesh, Scientific Reports, Nature, 2025 [\[Link\]](#)

BD Open LULC Map: High-resolution land use land cover mapping & benchmarking for urban development in Dhaka, Bangladesh [\[Link\]](#)

Applying State-of-the-Art Deep-Learning Methods to Classify Urban Cities of the Developing World; Sensors Journal, MDPI, 2021. [\[Link\]](#)

A Novel Disaster Image Data-set and Characteristics Analysis using Attention Model, ICPR, 2021. [\[Link\]](#)

Deep-learning coupled with novel categorization method to classify the urban environment of the developing world, International Conference on Signal Processing and Machine Learning, 2021. [\[Link\]](#)

LULC Segmentation of RGB Satellite Image Using FCN-8, SLAAI, 2019. [\[Link\]](#)

## TEACHING

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*Teaching Assistant*

**Independent University, Bangladesh CSC317: Numerical Method:** Autumn 2018  
**Independent University, Bangladesh CSC203: Data Structure:** Summer 2018  
**Independent University, Bangladesh CSC101: Introduction to Computer Programming:** Autumn 2016

## SKILLS

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**Programming Languages:** Python, C++, JavaScript, Java, SQL  
**Libraries & Frameworks:** PyTorch, TensorFlow, OpenCV, NumPy, Pandas, Scikit-learn, Matplotlib, FastAPI, Flask, ReactJS, Angular  
**Geospatial Tools:** QGIS, Google Earth Engine, GeoPandas, GDAL  
**Cloud Platforms:** Google Cloud Platform, Amazon Web Services  
**Web Scraping:** Scrapy, Selenium  
**Development Tools:** Git, Docker, Bash, VS Code  
**Applied Skills:** MLOps, Exploratory Data Analysis (EDA), Image Processing, Data Scraping  
**Professional Skills:** Project Management, Research Facilitation, Documentation, Report Writing

## RESEARCH INTERESTS

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Machine Learning, Deep Learning, Computer Vision, Remote Sensing, GIS, and Environmental Applications

## LANGUAGE SKILLS

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Language	Proficiency Level
Bengali	Native speaker
English	IELTS: 6.5

## PROJECTS

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### **Odoo Copilot: Natural Language-Driven ERP Analytics**

*Role: Machine Learning Engineer*

Engineered an AI-driven assistant for Odoo ERP, enabling users to input natural language queries and receive actionable insights. Leveraged large language models (LLMs) via LangChain to convert user inputs into ORM code, facilitating seamless database interactions. Designed and implemented dynamic data visualizations—including pie charts, bar graphs, line charts, and tree maps—to present query results effectively. This solution enhanced decision-making processes and operational efficiency within the ERP system.

### **DropDead Gorgeous: Virtual Makeup Room**

*Role: Artificial Intelligence Engineer, Team Lead*

Developed a virtual makeup room, allowing users to try various makeup styles on a woman's face in real-time. Integrated advanced computer vision techniques to map makeup products like lipstick, eyeshadow, blush, and foundation onto facial features. The platform provides a seamless, interactive user experience for makeup trials.

### **Urban Categorization with Deep Learning**

*Role: Research Assistant*

Created a tailored satellite image dataset covering all of Dhaka city, later expanded for testing across Bangladesh. Trained and evaluated deep learning models (e.g., DeepLabV3+) for land use and land cover segmentation. Applied geospatial analysis with QGIS and led a team in developing labeled segmentation data. The project supported collaborative research with the University of Tokyo and United Nations University.