

Atasi Roy Malakar

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Civil Engineer with 4+ years of experience in infrastructure and transportation systems, with strengths in automation, technical documentation, design validation, workflow optimization, and safety-critical data verification. Seeking roles in semiconductor, electronics manufacturing, industrial infrastructure, and AI-enabled operations, supported by experience in large-scale engineering execution and coursework in LLMOps, generative AI, workflow orchestration, and retrieval-based systems.

EDUCATION

- *Civil and Environmental Engineering MS- Research (Transportation Engineering Specialization)* 2025
University of Wisconsin-Madison
GPA: 4.0/4.0 (Cumulative)- 22/30 credits completed
Focus area: Urban Transp. Planning, Connected & Automated Transp. Systems, Adv. Traffic Simulation, Advanced Air Mobility
- *Bachelor of Technology in Civil Engineering* 2015
Calcutta Institute of Engineering & Management (Affiliated to Maulana Abul Kalam Azad University of Technology)
CGPA: 9.14/10

SKILLS

- **AI Infrastructure & Operations:** Large Language Model Operations (LLMOps) Specialization — Duke University / Coursera
Coursework in generative AI, model operationalization, data engineering workflows, vector databases, retrieval-augmented generation (RAG), workflow orchestration, and cloud/open-source LLM deployment concepts.
- **Programming Language:** C, MATLAB, Python
- **Software:** VISSIM, ArcGIS, AutoCAD Civil 3D, HCS, Sidra, PASSER, MicroStation, Revit, Oracle Primavera, MS Office Suite

PROFESSIONAL EXPERIENCE

Junior Engineer (Civil Engineering - Drawing, Design & Estimation)

Indian Railways, South Eastern Railway Headquarters

Mar 2021 - Jul 2024

- Co-ordinated cost estimates with precise Budget Forecasting for \$200M projects; Automated and revamped standard project report template expediting submission by 500%, resulting in approval of 2 high-impact projects by Railway Board
- Completed preparation of and approved 50+ AutoCAD drawings for railway transportation infrastructure component designs, reducing revisions by 75%, improving project delivery timelines by 75% and minimizing rework
- Gathered inspection and condition related detailed information about bridges, ensuring compliance with Safety Standards, in 3 railroad routes, for clearance by Commission of Railway Safety, prior to making those operational and open to traffic

Construction Engineer

Bridge and Roof Company (India) Limited

Apr 2016 - Mar 2017

- Developed revised AutoCAD site plans under World Bank Project ID P144726, incorporating geotechnical data and environmental considerations, reducing project delays due to stormwater management complications by 25%
- Conducted inspections at 5 construction locations, assisted with material testing and sampling; established Gantt charts for 110+ construction sites, enhancing project timelines, and stakeholder communication

ACADEMIC EXPERIENCE

Teaching Assistant (CIV ENGR 291) | UW-Madison

Aug-Dec, 2025

- Lead 2 weekly lab sections for 40-50 students in "Problem Solving Using Computer Tools", teaching core concepts and applications, including surveying field practices, and computer tools

Research Assistant, Traffic Operations and Safety (TOPS) Laboratory | UW-Madison

Jun-Dec, 2025

- Performed a blind test validation of a Wisconsin HSIP crash functional class assignment algorithm by manually verifying 2,136 random crash record results from 2024 algorithm prototype testing data, using 2023 STN/WISLR overlays in ArcGIS, and confirming an algorithm accuracy ~94.5%
- Analyzed discrepancies to identify primary error sources, such as ramp data handling and intersection ambiguity, and provided recommendations for algorithm improvement

ENGINEERING PROJECTS

Provision of Side Pathways on Girder Bridges longer than 20 yards for improving safety:

- Produced Safety-Focused AutoCAD drawings for 12 girders with a total of 1170 yards linear waterway

Elimination of Level Crossings by Subways or Road Over Bridges:

- Created Excel tool, integrating Indian Railway specifications for 1498 standard combinations and Soil Safe Bearing Capacity checks, to review 70+ R.C.C. box subway drawings, resulting in a 100% accuracy rate

Feeder Routes Bridge Structure Strengthening for increasing existing Axle Load bearing capacity to 25t:

- Engineered VBA tool for Influence Line Diagrams based on truss type, decreasing the processing time by 90%

Creation of Detailed Project Report for a New line Project in a mineral rich area of 11.0 MTPA Iron Ore:

- Constructed an Excel file to automate 20 chapters long Detailed Project Report generation, improving Data Collection, planning, Agency and Cross-Departmental Coordination, and future project workflows

Double Line project of existing 24.30 miles long Single Railway line to improve access to railway in a rural area:

- Implemented an Excel verification system ensuring 100% detection of deviation of actual construction completion from proposed work designs and enhancing contractor accountability

Multipurpose Cyclone Shelter construction under World Bank Project ID P144726:

- Built WBS Gantt Charts, improving project management for 110+ project sites and maintenance of deadlines