

SOUHARDYA ROY

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PROFILE

Computer Science and Engineering graduate from Independent University, Bangladesh, focused on machine learning, computer vision, and full-stack web development. Published research applying deep learning-based image segmentation to structural health monitoring, with hands-on experience building full-stack applications using modern database and backend tools.

EDUCATION

Bachelor of Science in Computer Science and Engineering (CSE)

Independent University, Bangladesh | Graduated: August 2026

- CGPA: 3.22

Higher Secondary Certificate (HSC), Science, Bajua Surendranath College

2020 | GPA 5.00

Secondary School Certificate (SSC), Science, Chunkuri Secondary School

2018 | GPA 5.00

PUBLICATIONS

CrackNet++: A Benchmark Study of Deep Segmentation Models for Dense Micro-Crack Detection in SHCC

Published, International Conference on Inventive Computation and Information Technologies (ICICCT 2026), India

- Conducted a benchmark study applying deep learning-based segmentation architectures, including U-Net, U-Net++, DeepLabV3, DeepLabV3+, and DenseNet, to detect dense micro-cracks in Strain-Hardening Cementitious Composites (SHCC) for structural health monitoring.

PROJECTS

Full-Stack Web Application Development

- Built and deployed full-stack web applications using MongoDB, Supabase, Prisma ORM, and Resend for database management and transactional email integration.

ACHIEVEMENTS

Runners-Up, Tech Fest Autumn 2024

- Collaborated with a cross-functional team under time pressure to design, build, and present a project solution, placing runners-up among competing teams.
- Earned CCNAv7: Introduction to Networks certification (Cisco Networking Academy, Sept 2024), demonstrating foundational knowledge in networking concepts, protocols, and configurations.

VOLUNTEERING

Polling Officer, Society Election, Shopnonagar Residential Area-1, Mirpur-9, Dhaka

March 2024

- Managed voter registration and polling operations for an electorate of approximately 500 residents, maintained order and transparency at the voting station, and collaborated with a team to count votes and prepare accurate reports.

SKILLS

- AI/ML & Computer Vision: Machine Learning, Deep Learning, Image Segmentation (U-Net, U-Net++, DeepLabV3/V3+, DenseNet), Model Benchmarking.
- Programming & Web: Python, JavaScript, HTML, CSS, Full-Stack Web Development.
- Databases & Backend: SQL, MongoDB, Supabase, Prisma ORM, Resend.
- Computer Science Fundamentals: Data Structures & Algorithms, Networking Fundamentals (CCNAv7 Certified).