SAYANRUP BARMAN

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EDUCATION

National Institute of Technology, Silchar

Assam, India

Bachelor of Technology - Electronics and Instrumentation Engineering; CGPA: 8.47

July 2022 - June 2026

Rajdhani Public School, Assam

Assam, India

HSC; Percentage: 92

July 2020 - June 2022

Pragjyotish Sr. Sec. School, Assam

Assam, India

SSC; Percentage: 97.4

July 2008 - June 2020

EXPERIENCE

June 2025 - July 2025

Intern @ IIT Guwahati

Field: Interferometry, Holographic Flow Cytometry & 3D Cell Imaging

- Developed a PyQt-based GUI for fringe pattern analysis and accurate parameter extraction for industrial use.
- Investigated holographic flow cytometry to overcome depth-of-focus constraints and adapt to microfluidic speed variations.
- Contributed to a slide-integrated holographic imaging system for reliable 3D cell counting.

PROJECTS

Image and Video Colorization

Self-Initiated Project

- Built a deep learning model to colorize black-and-white images and extended it to video using frame-wise processing.
- Employed Python and OpenCV for image handling, with TensorFlow for model training and deployment.

Data Analysis Portfolio

End to end Pipeline Development

- Built ETL pipelines (Python, SQL, AI) to process and model 100,000+ records for analysis.
- Informed marketing strategy via dashboards, identifying a 109% revenue gap and an 80% loyal customer segment.

Fringe Pattern Interferometry & Holographic 3D Cell Imaging

Academic-Industry Collaborative Projects

- Built a PyQt-based GUI for fringe pattern analysis and precise phase extraction for industrial use.
- Reconstructed flowing cell images with adaptive space-time holography, applying subpixel correction and image correlation for accurate cell counting.

SKILLS

• Languages & Tools: Python, C language, MATLAB, Microsoft Excel, PowerPoint, Power BI, SQL

• **Prompt Engineering**: AI driven problem-solving, leveraging tools like Copilot, Claude, n8n and many more

Soft Skills: Leadership, Event Management, Team Collaboration, Time Management, Critical Thinking

Position of Responsibility

INSEES, NIT Silchar

Treasurer July 2024 - May 2025

 Oversaw budgeting, sponsorship outreach, and public relations—managing funds while actively engaging with external stakeholders to support academic and student initiatives.

BACE, NIT Silchar

Community Manager and Lead Moderator

July 2024 - Present

• Oversaw the operations and engagement of the community, ensuring smooth content flow and moderating discussions to maintain a constructive environment.

Illuminits & Symphonits, NIT Silchar

Moderator and English Literature Head

July 2024 - May 2025

 Facilitated event coordination and content curation, supporting members in organizing a multitude of events, offering logistical and creative support.

OTHER INTERESTS/EXTRACURRICULAR ACTIVITIES

- Volunteer Eco Club
- Event Coordinator Incandecense, Tecnoesis, Posua etc.
- Art, Guitar, Spiritual Enthusiast