

# Punam Chowdhury

Dhaka, Bangladesh

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## RESEARCH INTERESTS

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Artificial Intelligence, Computer Vision, Deep Learning, Robotics, Embedded Systems.

## EDUCATION

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### Dhaka University of Engineering & Technology (DUET)

*Bachelor of Science in Computer Science and Engineering*

Gazipur, Bangladesh

Oct 2016 – July 2021

- **Thesis:** An AI-Based Security System Using Computer Vision and NLP Conversion System
- **Key Strength:** Highly active in competitive robotics; prioritized practical application and research implementations over theoretical coursework.

### Indian Institute of Technology (IIT) Kharagpur

*Professional Certification in Artificial Intelligence and Machine Learning*

Kharagpur, India

July 2022 – Dec 2022

- Selected for the government-sponsored "Bangladesh-Bharat Digital Service" scholarship.
- **Focus:** Advanced ML algorithms, Deep Learning architectures, and practical deployment of AI models.

## PEER-REVIEWED PUBLICATIONS

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1. **P. Chowdhury**, Co-author. "DeepJurist: A Hybrid Deep Learning Architecture for Detecting Fake Visual Evidence in Judicial Systems." *IEEE Xplore*, 2024. [<https://doi.org/10.1109/ICCIT64611.2024.11022369>]
2. **P. Chowdhury**, Co-author. "NeuroXAI++: An Efficient X-AI Intensive Brain Cancer Detection and Localization." *IEEE Xplore*, 2023. [<https://doi.org/10.1109/NCIM59001.2023.10212818>]
3. **P. Chowdhury**, Co-author. "An AI-based Security System Using Computer Vision and NLP Conversion System." *IEEE Xplore*, 2022. [<https://doi.org/10.1109/STI53101.2021.9732565>]

## PROFESSIONAL EXPERIENCE

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### Bangladesh Research and Education Network (BdREN)

Dhaka, Bangladesh

*Senior Software Engineer Dec 2021 – Present Promoted from Software Engineer to Senior SE within 3 years (Company benchmark: 5+ years)*

- Architecting enterprise-level applications involving AI/ML integration for nationwide educational networks.
- Leading the migration of legacy systems to microservices architecture, improving system scalability by 40%.
- Mentoring junior engineers and leading code reviews to ensure industry best practices.

### Texon Limited

Dhaka, Bangladesh

*Co-Founder & Chief Technology Officer (Part-Time)*

Dec 2020 – Current

- Led the technical strategy and product development roadmap for a software and automation-based startup.
- Designed the MVP hardware-software interface, enabling early market testing and user feedback.

## SELECTED RESEARCH PROJECTS

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### Autonomous Robotics Development | DUET Robotics Club

- Developed an autonomous rover capable of traversing uneven terrain using NEO Station 5 over MQTT communication.

- Competed and secured top rankings in robotics competitions \*\*Techfest (IIT Bombay)\*\* and \*\*Techkriti (IIT Kanpur)\*\*, competing against international teams.

## LEADERSHIP & SERVICE

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- **President**, DUET Robotics Club: Led a community of 100+ members, organizing workshops and national contests.
- **Lead**, Robotics Wing, DUET Computer Society: Mentored undergraduate students in embedded systems and circuit design.
- **Scholarship Recipient**, Bangladesh-Bharat Digital Service and Employment Training (2022).

## TECHNICAL SKILLS

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- **Languages:** Python, C++, Java, JavaScript.
- **AI/ML:** TensorFlow, PyTorch, OpenCV, Scikit-learn, NLP.
- **Hardware/Robotics:** Arduino, Raspberry Pi, Embedded C, Sensor Integration.
- **Web & Tools:** Docker, Kubernetes, Git, Django, React.

## REFERENCES

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### Dr. Fazlul Hasan Siddiqui

Professor

Department of Computer Science & Engineering  
Dhaka University of Engineering & Technology  
(DUET)  
Gazipur, Bangladesh

**Research Focus:** Automated Planning &  
Scheduling,  
Machine Learning, Conversational AI

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### Prof. Md. Amran Hossain

Professor

Department of Computer Science & Engineering  
Dhaka University of Engineering & Technology  
(DUET)  
Gazipur, Bangladesh

**Research Focus:** Microwave Brain Imaging,  
Biomedical Image Processing, Deep Learning

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