

# Kritanu Chattopadhyay

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## EDUCATION

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### Delhi Public School Newtown

Class X – 97.8%

Kolkata, West Bengal

Apr 2021

### Haryana Vidya Mandir, Salt Lake

Class XII – 92.8%

Kolkata, West Bengal

Apr 2023

### National Institute of Technology, Durgapur

B.Tech in Mechanical Engineering, CGPA: 7.82

Durgapur, West Bengal

Aug 2023 – Present

## EXPERIENCE

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### Indian Institute of Technology, Patna

Undergraduate Research Intern at the Department of Computer Science and Engineering, IITP

July 2025 - Present

Remote

- Under the supervision of *Prof. Sriparna Saha*, guided by PhD Scholar Sofia Jamil.
- Developing an LLM and Reinforcement Learning based Adverse Drug Effect Summarizer for Cancer Treatment.

### Autonomous Systems Laboratory, IIT Madras

Undergraduate Project Intern at Department of Engineering Design, IITM

May 2025 – July 2025

Chennai, Tamil Nadu, India

- Under the supervision of *Prof. Bijo Sebastian*, *Prof. Sandipan Bandyopadhyay* and *Prof. G. Saravana Kumar*.
- Utilized **Altair MotionSolve** to develop and validate dynamic simulations for a company-sponsored project, focusing on the performance analysis of a novel farm vehicle.

### Mechatronics Lab, IIT Delhi

Undergraduate Research Intern at Department of Mechanical Engineering, IITD

Feb. 2025 – Present

Remote

- Undergraduate Research Intern under the supervision of *Professor Subir K. Saha*.
- Currently utilizing **Visual C#** to develop and enhance the backend of **RoboAnalyzer**, a robotics analysis and visualization software.

### CMATER Lab, Jadavpur University, Kolkata

Undergraduate Research Intern at Department of Computer Science Engineering, Jadavpur University

Dec 2025 – Aug 2025

Remote

- Undergraduate Research Intern under the supervision of *Professor Debotosh Bhattacharjee*.
- Project II** - Applying **AI/ML methods** to classify **Cassava Leaf Diseases**, supporting precision agriculture through automated disease detection.
- Project I** – Formulated an ensemble-method approach to estimate **SPAD (Soil Plant Analysis Development) values** from rice leaf imagery as part of a precision agriculture study, with results documented in a research paper accepted to **COMSYS 2025 (Warsaw, Poland)**.

### Robotics and Automation Laboratory, IIT Patna

Undergraduate Research Intern at the Department of Mechanical Engineering, IITP

Dec 2025 – Jan 2025

Bihta, Bihar, India

- Undergraduate Research Intern under the supervision of *Professor Karali Patra*, guided by PhD Scholar Surya Prakash Singh.
- Leveraged **MATLAB** and **Python** skills to develop the code of a transformation matrix between two given points on a free form surface to find the rotation angles and the translational matrix.

### National Institute of Technology Durgapur

Undergraduate Research Intern

Jan 2025 - Present

Durgapur, West Bengal, India

- Under the supervision of *Prof. Nirmal Baran Hui* (Department of Mechanical Engineering) where I am using **MATLAB** and **Simulink** to device a walking biped robot that can jump. It is a collaborative project with Mr. Debanuj Roy.
- Under the supervision of *Prof. Aritro Dey* (Department of Electrical Engineering) where I am developing a tracking sliding mode controller and apply the same in a UAV using **MATLAB** and **Simulink**. It is a collaborative project with Mr. Siddhartha Kundu.
- Under the supervision of *Prof. Soumya Chatterjee* (Department of Electrical Engineering), I am developing deep and transfer learning techniques for eye disease classification using **PyTorch**.

## TECHNICAL SKILLS

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**Soft Skills:** Communication, Community Outreach, Content Writing and Business Marketing.

**Languages:** MATLAB, Python, C, Visual C#, L<sup>A</sup>T<sub>E</sub>X.

**Hardware:** Arduino, ESP32

**Mathematics:** Linear Algebra, Statistics, and Calculus.

**Frameworks:** PyTorch, Tensorflow, Scikit-Learn, Mediapipe.

**Developer Tools:** VS Code, Visual Studio.

**Libraries:** Pandas, NumPy, Matplotlib, Seaborn, OpenCV, OpenTK, HelixToolkit3D.

**Simulation Softwares:** Ansys WorkBench, Simulink, Altair MotionSolve, Altair HyperMesh, Altair HyperGraph.

**CAD tools:** SolidWorks, Autodesk Fusion360, CATIA V5R19.

## ACHIEVEMENTS

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- Paper accepted for presentation at **COMSYS 2025 (Warsaw, Poland)** on SPAD estimation using ensemble learning under the supervision of Prof. Debotosh Bhattacharjee, CMATER Lab, Jadavpur University.

- Semi-Finalist in **Flipkart GRiD 6.0 - Robotics Track**.

- Ranked 7th among all the teams that participated in **Prodylitics 2024** organised by IIM Indore.

## EXTRA - CURRICULAR

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### Society of Automotive Engineers Collegiate Club

May 2025 - Present

*Senior Coordinator*

*On-site*

- Domain - Robotics, Machine Learning and Automobiles.
- Introduced the weekly F1 Magazine - **Through the Formula Lens** as a part of SAE.
- Organized the Aarohan as a member of **Team Aavishkar**.

### Mechanical Engineers' Student Association, NIT Durgapur

March 2025 - Present

*Senior Coordinator*

*On-site*

- Organised the **CADathon** - a hackathon aimed at promoting CAD designing through the institute.

### Innovation and Incubation Cell, NIT Durgapur

Feb 2025 - Present

*Student Volunteer*

*On-site*

- Actively involved in producing curated content for the website of IIC NIT Durgapur.
- Member of the official **Content Wing of IIC NIT Durgapur**.
- Team Member of **AI2Summit** Team and the **IIC Chronicles**.

### Team NDORS, NIT Durgapur

Jun 2025 - Present

*Senior Member*

*On-site*

- Member of the **BAJA SAE NIT Durgapur Team NDORS**.
- Involved in the **Computer Aided Engineering and Steering System team of Team NDORS**.

### Aerial Robotics Research Group, NIT Durgapur

Jun 2025 - Present

*Senior Member*

*On-site*

- Involved in the team **AI/ML, Microcontroller and CAD Design tracks**.

### NayePankh Foundation

Aug 2024

*Fundraising Intern*

*Remote*

- Raised INR 5001 for the cause of providing sustainable education to the underprivileged children.

### Rendezvous, IIT Delhi

Aug 2024 - September 2024

*Campus Ambassador*

*Remote*

- Promoted the fest and their sponsors within the institute.

### Earth5R

Aug 2024 - Dec 2024

*Content Writer*

*Remote*

- Wrote multiple articles promoting environmental awareness.

## INTERESTS

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**Artificial Intelligence** : Machine Learning, Deep Learning, Natural Language Processing, Large Language Models, Reinforcement Learning and Computer Vision and their applications in the Biomedical Domain.

**Robotics** : Medical Robotics and Industrial Robotics.