Dhruva Shaw

Date of birth: 12/04/2003 | **Nationality:** Indian | **Phone number:** (+91) 6292211794 (Mobile) | **Email address:** dhruvashaw@gmail.com | **Website:** https://dhruvashaw.in |

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ABOUT ME

Innovative and results-driven Robotics and Automation Engineer-in-training with a strong foundation in merging hardware and software to develop impactful, real-world solutions. Skilled in Python (including Discord.py), full-stack web development, and automation systems.

Experienced in designing and developing AI models early Osteoporosis detection, mind-controlled bionic prosthetics, and workflow optimization tools. Proficient with microcontroller ecosystems (Arduino, ESP32, Raspberry Pi), and knowledgeable in machine learning, IoT, and industrial automation.
Actively contributing to robotics education and competition frameworks through India STEM Foundation and World Robot Olympiad (WRO) India. Leading the ISF STEM Teacher Training Program and developing scalable curriculum models to train 1,000+ teachers across India.

Inventor of Adverse — an AI-powered Open-Source Intelligence (OSINT) system for digital identity verification and cyber surveillance, currently published as a patent by the Indian Patent Office.
Recognized with honors such as the IEEE SPS Scholarship and multiple accolades in technical competitions.
Passionate about bridging research with deployment through open-source collaboration, educational leadership, and standards development in robotics and automation.

WORK EXPERIENCE

INDIA STEM FOUNDATION – GURUGRAM HARYANA, INDIA

ROBOTICS ENGINEER – 01/07/2025 – 19/08/2025

Internship to Full-Time Conversion

WORLD ROBOT OLYMPIAD INDIA – GURGAON, INDIA

ROBOTICS ENGINEER – 01/07/2025 – 19/08/2025

Currently supporting the WRO season 2025
[Leading the Technical Team]

INDIA STEM FOUNDATION – GURGAON, INDIA

Email dhruva@indiastemfoundation.org

ROBOTICS ENGINEER - INTERN – 19/06/2024 – 30/06/2025

- **Reporting & Analysis:** Creating **detailed reports** on **webinars, student training sessions, and WRO 2025 registration updates**.
  - **STEM Teacher Training Leadership:Leading the ISF Certified STEM Teacher Training Program**, aimed at equipping educators with robotics and STEM education methodologies.
  - **Developed a 4-hour STEM teacher training program** to train **1,000 educators** in robotics and automation.
  - **Designed a structured 30-period STEM training curriculum**, enabling teachers to **implement STEM learning effectively** in schools.
  - **Trained & mentored two interns**: One as a **Team Coordinator** and another as a **Robotics Engineer- Intern**, ensuring seamless event execution and technical support.

WORLD ROBOT OLYMPIAD INDIA – GURGAON, INDIA
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ROBOTICS ENGINEER - INTERN – 19/06/2024 – 30/06/2025

- **Conducted technical training & mentorship** for students, teachers, and mentors, preparing them for WRO competitions.
- **Led webinars & training sessions** on **electronics, robotics, and event management** for WRO 2025.
- **Managed competition logistics**: Oversaw **venue setup, mission model construction, mat quality assurance, and technical infrastructure** at all WRO regional & national events.
- **Quality Assurance & Testing**: Performed **mat inspection, mission model testing, and competition setup validation** to maintain WRO standards.
- **Head Judge for RoboMission Junior** at **Mumbai Regionals & Ahmedabad Nationals**, ensuring structured evaluation and fair assessment.
- **Hosted & Coordinated WRO Kolkata Regionals**, leading event execution and operations.
- **Finalizing WRO 2025 regional event dates** and overseeing **competition planning & execution.**

EDUCATION AND TRAINING

01/08/2021 – 31/05/2025 Jalandhar, India
BACHELORS OF TECHNOLOGY IN ROBOTICS AND AUTOMATION Lovely Professional University

LANGUAGE SKILLS

Mother tongue(s): **HINDI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	C2	B2	C2	B2
BENGALI	C2	C2	C2	C2	A2
FRENCH	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

2024
Mind Controlled Bionic Arm with Sense of Touch [8 class version]

2024
Book of Abstracts 39th IEC [Mind Controll Bionic Arm with Sense of Touch]

CONFERENCES AND SEMINARS

20/12/2024 Novotel, Kolkata
Indian Engineering Congress

Paper presentation titled "**Mind Controlled Bionic Arm with Sense of Touch**" in biotechnology category.

16/04/2024 Online

SysCon24 Student Event

Paper titled "**Robotic Swarm With Independent Selection of Master-Slave Configuration"**

Link https://2024.ieeesyscon.org/authors/systems-council-student-event/

12/10/2023 – 13/10/2023 Lovely Professional University, India

5th International Conference on Intelligent Circuits and Systems (ICICS-2023)

Poster Presentation under the topic "**Mind Control Bionic Arm with Sense of Touch**"

This was the initial stage of the project and the first time that the project at a conference.

Link https://www.lpu.in/conferences/icics/icics2023/

PROJECTS

01/08/2023 – CURRENT

Mind Controlled Bionic Arm with Sense of Touch

This paper/project proposes a new design for a low-cost bionic hand with a touch sensor in the gripper. This feature aims to improve user safety and dexterity. The hand is crucial for daily life, and this design offers a more accessible alternative to hand transplantation.

Link https://creativenet.dhruvashaw.in/projects/mcba/

Osteoporosis ML Model

An AI model is being developed to detect Osteoporosis early and KL grade knee OA, using an Indian population-specific database

Minato Namikaze

Minato Namikaze, the versatile Discord bot, handles everything from admin tasks to fun and games.

Link https://github.com/The-4th-Hokage

HONOURS AND AWARDS

01/11/2024

IEEE SPS Scholarship – IEEE Signal Processing Society

The SPS Scholarship Program recognizes students who have expressed interest and commitment to pursuing signal processing education and real-world career experiences. This year, 45 outstanding students were selected from a large field of more than 250 qualified applicants worldwide.

Links https://www.credential.net/69acd99f-d7f8-48d9-a6d5-1f86b3fb2feb | https://signalprocessingsociety.org/gallery/2024-sps-scholarship-recipients

16/03/2024

2nd best poster at EE Research Day at IIT Ropar – Indian Institute of Technology, Ropar

The poster was titled "Mind Controlled Bionic Arm with Sense of Touch"the description...

Link https://www.researchgate.net/publication/379267849_Mind_Controlled_Bionic_Arm_with_Sense_of_Touch

CERTIFICATIONS

09/09/2024 – 14/09/2024

Artificial Intelligence for Sustainable B5G/6G Networks

IEEE Communications Society

12/06/2023 – 11/07/2023

Industrial Automation (PLC Programming)

Central Tool Room & Training Centre, GOI

12/09/2022 – 16/09/2022

Drone Hands-on-Training

Chitkara University, Chandigarh in coordination with Indian Institue of Technology Bombay

25/06/2020 – 10/07/2020

Oracle Database 11g: Advanced PL/SQL

Central Tool Room & Training Centre, GOI

21/12/2019 – 22/12/2019

Autonomous and Mobile Robotics

Robosapiens Technologies Pvt. Ltd

PATENTS

02/03/2025

Adverse: Automated Open-Source Intelligence System for Digital Identity Verification and Cyber Surveillance

Patent Application No: **202531018252**
Adverse is an advanced open-source intelligence (OSINT) and facial recognition system designed to aggregate, analyze, and verify publicly available digital information. The system integrates AI driven search algorithms, facial comparison technology, and passive reconnaissance methods to extract relevant data from social media platforms, search engines, and publicly accessible CCTV networks. Utilizing a multi-layered search architecture,
Adverse enables users to input an individual's name or image to retrieve corresponding digital footprints, perform cross-platform identity verification, and enhance investigative capabilities. The face recognition module employs a threshold-based comparison algorithm to detect and match images sourced from the internet, improving accuracy and identity validation. Additionally, the system incorporates automated dorking query generation, subdomain reconnaissance, and real-time online public cctv data retrieval, ensuring efficient data acquisition and analysis. Adverse is designed to support government intelligence agencies, cybersecurity firms, and law enforcement bodies in conducting digital investigations, fraud detection, and threat assessment with a high degree of precision.

Link https://dhruvashaw.in/adverse