



Dhruva Shaw

A discord.py bot developer and a budding Robotics and Automation Engineer from LPU

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Profiles

- Dhruvacube
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Volunteering

National Cadet Corps
Cadet
01 Sept 21 - 03 March 2024

Summary

By passion a discord.py bot developer and a full stack web developer using python. Pursuing Robotics Engineering, I also develop electronics and software projects. All developments are based on my self research and reading materials available on various platforms. My codes are open sourced, head over to my github and see more!

Education

Lovely Professional University Robotics and Automation	Aug 2021 - Sept 2025 Bachelor of Technology
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Certifications

Drone Hands-on-Training Chitkara University, Chandigarh in coordination with Indian Institue of Technology Bombay 12th - 16th Sept, 2022	Oracle Database 11g: Advanced PL/SQL Central Tool Room & Training Centre (MSME) Government of India 25th June - 10th July, 2020
Autonomous and Mobile Robotics Robosapiens Technologies Pvt. Ltd. 21st - 22nd Dec, 2019	Industrial Automation (PLC Programming) Central Tool Room & Training Centre (MSME) Government of India 12th June - 11th July, 2023

Experience

IEEE YESIST12 Student Ambassador Jan 2024 - Present	IEEEExtreme Student Ambassador May, 23 - Dec, 23
Techfest, IIT Bombay Campus Ambassador June, 23 - Dec, 23	Tanzanite LPU Assistant Head of Technical Department Sept, 21 - Dec, 21

Microcontroller Boards Used

Arduino UNO



ESP32



Arduino LillyPad



Arduino Nano



Raspberry Pi
Zero 2W



8051



LPC1768



STM32F103C8



T6



Jetson Nano



AVR ATMEGA8



Patents Filed

**Mind controlled bionic hand with
sense of touch**

filed through the university, it is yet to
be granted

Additional Achievements/Accomplishments

Participating member of IEEE SA - P3120 working group **01 Sept, 23 - Present**

This standard defines technical architectures for a quantum computers based on the technological type (e.g., fault-tolerant universal quantum computing) and one or more qubit modalities (e.g., superconducting quantum processor).

Voting Member of IEEE SA - P62659 Working group **01 Sept, 23 - Present**

This International Standard provides a framework for introducing nanoelectronics into large scale, high volume production in semiconductor manufacturing facilities through the incorporation of nanomaterials (e.g. carbon nanotubes, graphene, quantum dots, etc.)

2nd prize in poster presentation at IIT Ropar **16th March, 24**

Electrical Department, IIT Ropar

Clinched 2nd prize in poster presentation at EE Research Day Celebrations at IIT Ropar. The project title was "Mind Controlled Bionic Arm with Sense of Touch"

Conferences / Conclaves Attended

Poster Presentation at 5th International Conference on Intelligent Circuits and Systems (ICICS-2023) **12 Oct,23 - 13 Oct, 2023**
Lovely Professional University

Delegate at 2nd Indian Space Conclave jointly organised by ISRO & ISpA **09 Oct, 23 - 11 Oct, 2023**
ISpA - Indian Space Association Manekshaw Centre, New Delhi

Delegate at First International Quantum Communication Conclave **27 March, 23 - 28 March, 2023**
Vigyan Bhawan, New Delhi
Department of Telecommunications ,
Government of India (GOI)

SysCon24 **16th April, 24**

Oral paper presentation under the topic "Robotics Swarm Configuration with Independant Selection of Master and Slave"

Research Paper

Mind Controlled Bionic Hand

<http://dx.doi.org/10.13140/RG.2.2.11164.46724>

Apart from being presented as poster in ICICS-23, it has also clenched 2nd position in EE Research Day-24 in poster presentation at IIT Ropar

Upcoming Conference to Attend

109th Indian Science Congress **India**

Oral paper presentation under the topic "Mind Controlled Bionic Arm with Sense of Touch"

Programming Languages Known

Python	Micropython
Goto language for all projects	◆◆◆◆◆
◆◆◆◆◆	
MATLAB	C
◆◆◆◆◆	◆◆◆◆◆
Embedded C	Ladder
◆◆◆◆◆	◆◆◆◆◆
C++	PHP
◆◆◆◆◇	◆◆◆◇◇
JavaScript	Java
◆◆◆◇◇	◆◆◆◇◇
GoLang	Assembly
◆◆◇◇◇	◆◇◇◇◇

Hardware Projects

Osteoporosis ML Model

This AI/ML is being developed under the guidance of Dr. Bhaveshkumar C Dharmani, with an understanding and MoU signed between LPU, Jalandhar, Punjab and AIIMS, Bhatinda, Punjab. This AI/ML model aims to have an early detection of Osteoporosis, aiding in the prevention of the disease at an early stage. This project uses an enriched database of images of the disease of the Indian Population suffering from the disease because the body structure varies from region to region across the country. On completion of the model development, it would be deployed for further testing and deployment by using Jetson Nano to integrate with the X-Ray hardware. Curing time for the patient likely to be reduced and a better patient care can be provided.

Micromouse - (Micropython)

The maze traversal algorithm used is A* with the combination of the Flood Fill Algorithm with a modified heuristic using micropython language. (For Techfest 2023-24)

Line Following Robot with PID

LFR which auto sets its PID value using the Zig Nicholas Method (ongoing). Proteus has been used to simulate the circuit and Easy EDA has been used to design the PCB. This robot is made specifically for the Techfest at Indian Institute of Technology Bombay

Software Projects

Shaw Durga Puja

<https://shawdurgapuja.herokuapp.com>

Durga Puja with traditional rituals have been always celebrated since 2001. Still photographs were kept as a recorded documentary and memory. Technology advancement helped in facilitating live video calls for the distant relatives and friends. However to automate and do away with a requirement of man-power to facilitate the live-video calls, a website with still-photo documentation and live-streaming capabilities was developed and hosted on Heroku. This enabled easy and 24x7 availability of the festival celebration

Minato Namikaze

<https://github.com/Creatrix-Net/yondaime-hokage>

A multipurpose discord serving almost all of the server needs from administration to fun/gaming, etc. The bot can be described in one line - "Konichiwa 🍷, myself Minato Namikaze, Konohagakure Yondaime Hokage. I do every work of a Hokage in a swift and clean way ⚡"