Dhruva Shaw

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

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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 (01.09.2021 - 01.09.2025)
Bachelor of Technology, Robotics and Automation

Army Public School, Kolkata (01.04.2009 - 01.06.2021)
Class 1 - 12

Studied PCM with Computer Science and Physical Education

- Class 10 (2019) : 94%
- Class 12 (2021): 89.6%

Air Force School, Gurgaon (01.04.2006 - 01.04.2009)

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

App Building Onramp (01.06.2023)
MathWorks

LANGUAGES

Hindi
Native Fluency

English
Professional Fluency

Bengali
Intermediate

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 (01.09.2023)

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 - P62639 Working group (01.09.2023)

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.)

Member of Center of Space Research - LPU, Jalandhar

A full time working member of Center of Space Research LPU, currently we are building a cubesat which is to be launched in atmosphere by Indian Space Research Organization. The project is fully funded by university itself.

CONFERENCES / CONCLAVES ATTENDED

Delegate at 2nd Indian Space Conclave jointly organised by ISRO & ISpA (09.10.2023 - 11.10.2023)
ISpA - Indian Space Association

Delegate at First International Quantum Communication Conclave (27.03.2023 - 28.03.2023)
Department of Telecommunications (DOT), Government of India (GOI)

RESEARCH PAPERS

Building of mind controlled bionic hand with sense of touch
to be presented in Indian Science Congress 2024

Detection of creatinine
to be presented in Indian Science Congress 2024

SKILLS

- Drone Engineering
- C++
- C
- Python
- Embedded C
- PCB Designing
- Full Stack Web Development
- PHP
- Micropython
- Payment Systems
- AI/ML
- Libraries Development
- Asynchronous Programming
- Fusion 360
- DBMS
- NextJS
- Big Data Management
- Git/Github
- ROS
- PLC
- Cloudflare
- SaaS

WORK EXPERIENCE

IEEE (01.05.2023 - Present)
Student Ambassador

Promoted as a Student Ambassador in Punjab under Delhi section R10 region

Techfest, Indian Institue of Technology Bombay (01.06.2023 - Present)
Campus Ambassador

Promote Indian Institue of Technology Bombay Techfest at Lovely Professional University amongst different schools of engineering

Upwork (01.01.2023 - Present)
Professional Freelancer

Curently working as a part-time freelancer. Awarded and appericiated with recognition as "Rising Star Talent"

https://www.upwork.com/freelancers/~01f5d99e3d27057187

Tanzanite LPU (01.09.2021 - 01.12.2021)
Assistant Head of Technical Department

Developed the current website singlehandedly and promoted Tanza Gaming League - 2.0

https://tanzanite.com

VOLUNTEER EXPERIENCE

National Cadet Corps (01.07.2021 - Present)
Cadet

Proudly serving in an infantry battalion of the National Cadet Corps located in Phagwara, Jalandhar, Punjab. Supporting Armed forces and local efforts for the betterment of the youth and country while being in the 3rd year of training service with the motto of Unity and Discipline.

World Cube Association (01.01.2016 - Present)
Registered Cuber

My WCA ID: 2016SHAW01

https://www.worldcubeassociation.org/persons/2016SHAW01

MICROCONTROLLER BOARDS USED

- Arduino UNO
- ESP32 DEVKIT V1
- Arduino Nano
- Raspberry Pi Zero 2W
- STM32F103C8T6
- ESP32-S
- Nvidia Jetson Nano
- Arduino LillyPad
- AVR ATMEGA8
- 8051
- LPC1768

HARDWARE PROJECTS

Osteoporosis ML Model

This AI/ML is being developed under the guidance of Dr. Bhaveshkumar C Dharmani with the MOU signed by the LPU, Jalandhar and AIIMS, Bhatinda. Here in this project the AI/ML model is being developed using the Indian databases and images of the disease, as Indians have a different build up.
After the model being developed it will be depolyed using Jetson Nano to intergrate with the X-Ray machine hardware.
Sole goal is to detect the disease in early stages so that aid in the undertaking the preventive measure for the disease is done at the approriate time for the cure

Micromouse - (Micropython)

The maze traversal algorithm used is A* with the combination of the Flood Fill Algorithm with a modified heuristic. The micromouse is implemented in ESP21-DEVKIT V1 Microcontroller board, with the PCB designing done in the EASY EDA. (This is made specifically for the Techfest, 23-24)
This probably is the world first non-virtual micromouse implemented in the ESP-32 using MicroPython.

Line Following Robot with PID

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

8051 Obstacle Avoider

Obstacle Avoidance using 8051. Keil is used to program the microcontroller, Proteus is used to simulate it virtually.

Bluetooth RC car

Developed RC-car and used sucessfully in the university RC-car competition.
It has been developed using Arduino UNO/Nano and HC05 for data-processing and wireless communication with the phone

TG-113 BLE Speaker

This bluetooth speaker is made using the simple premade TG-113 breakout circuit board

PROGRAMMING LANGUAGES KNOWN

- Python
- C
- C++
- PHP
- Javascipt
- Shell Script
- Assembly
- GoLang
- Embedded C
- Micropython
- Circuitpython
- Ladder
- MATLAB

SOFTWARE PROJECTS

Shaw Durga Puja

Durga Puja with traditional rituals have been always celebrated since 2001.
Still photographs were kept as arecorded 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 devloped and hosted on Heroku. This enabled easy and 24x7 availability of the festival celebration

🔗 **https://shawdurgapuja.herokuapp.com**

Minato Namikaze

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

Cabinet Man

This project started with a blank mind no idea. But my school friend told me to listen to song "Cabinet Man" by "Lemon Demon".From there we did some modifications and laid the plot for this project.I implemented the idea to create this project.
I would like to thank my songwriter P4LE C4RR0TZ (wished to be unnamed) for allowing me to use his songs in my game.
This project was exclusively made for "Google Code to Learn 2018".

fluxpoint.py

Async python wrapper for the **fluxpoint api**

LA22B

During the COVID period (2020-2021) across the geography the graduating students missed out on their school memories and related activities like fun-farewell.
Thus with the help of this project I tried to somewhat provide an alternative way to organize ware farewell and its fun activites.