



Ayushman Pal

Roll No: CH22B057

Indian Institute of Technology Madras

PR/11/CH/25/057

[github/AyushmanPal](#)

[linkedin/AyushmanPal](#)

SCHOLASTIC ACHIEVEMENTS

| PROGRAM | INSTITUTION | %/CGPA | COMPLETION |
|---------------------------------|--|--------|------------|
| Bachelors, Chemical Engineering | Indian Institute of Technology Madras | 7.37 | 2026 |
| CBSE ¹ , XII | St. Anselm Sr. Sec. School, Bhilwara, RJ | 92.6 | 2022 |
| CBSE, X | The Oxford School, Haridwar, UK | 92.8 | 2020 |

SCHOLASTIC ACHIEVEMENTS

- Ranked in the top **2.9%** out of **0.2 million** selected candidates in **JEE²-Advanced 2022**, conducted by **IIT Bombay**
- Secured percentile rank **99.47** out of **1.1 million** of candidates in **JEE Mains 2022** conducted by **National Testing Agency**
- 7th Place** – **iSchoolConnect** Programming Contest on **CodeChef** (out of **3000 participants**), [November 2023]
- 1628** max. rating on **CodeChef** and **1412** on **CodeForces** (Competitive Programming platforms) reflecting problem-solving abilities.

TECHNICAL SKILLS

- Programming:** C++, Python, Java, Javascript
- Tools/Libraries:** Tensorflow, Pandas, Matplotlib, Numpy, Linux, Selenium, Docker, scikit-learn, GNU Octave, Aspen, MATLAB
- Practice & Project Management:** Object Oriented Programming, Functional Programming, Git, Latex, MySql, PostgreSQL

PROFESSIONAL EXPERIENCE

CYBERSECURITY INTERN | IIT MADRAS

May'24 – Present

Guide: Prof. N.S. Narayanaswamy

- Public Exploits Reversing:** Analyzed and implemented **PoC³** for various software vulnerabilities, including **CVE-2024-21413** and **CVE-2024-30042**, Implemented **Antivirus evasion strategies** to mitigate risks and enhance system security
- Info Stealers Research:** Conducted in-depth research into information-stealing malware by leveraging advanced forensic tools, including **CookieKatz**, to extract, decode, and analyze cookies from the memory of **Chromium-based browsers**. This process provided critical insights into potential security vulnerabilities and risks associated with cookie storage, enhancing overall security measures
- Secondary Team Support:** Contributed as a secondary team member for **Initial Access Vectors**, overseeing their performance

DEVELOPER INTERN | VICTOPIA LABS

Apr'24 – May'24

- Configured **BigBlueButton**(an open source web conferencing application) on Ubuntu using Docker, following git documentation for setup. Also worked with **Microsoft Azure** to setup the server for the application

DATA ENGINEER | REOMNIFY

Dec'23 – Feb'24

- Developed and implemented **Python-based web scraping solutions** using advanced libraries, including **Selenium** and **BeautifulSoup**, to automate data retrieval and apply data transformation techniques from over **60 online resources**
- Managed and maintained data storage using **MySQL** and **PostgreSQL**, ensuring data integrity and accessibility

PROJECTS

CHAT ROOM | SELF PROJECT

Ongoing

- Developed a chat room application using **Python** with **Tkinter** and **CustomTkinter** for an intuitive and responsive user interface.
- Implemented real-time **client-server communication** through **socket programming** for effective data transfer
- Currently enhancing the application by integrating audio transmission features using **PyAudio** to provide a more interactive experience

LUNAR LANDER SIMULATION | SELF PROJECT

Feb'24 – Mar'24

- Developed and implemented a Deep Q-Network (DQN) in Tensorflow** to autonomously control a lunar lander in an OpenAI Gym
- Optimized reinforcement learning model performance using experience replay and target networks**, enhancing **significant reduction** in crash rates through rigorous hyperparameter and stability and efficiency in dynamic environments
- Authored and documented the project in a detailed Jupyter Notebook**, covering all the process for development

STOCK PRICE PREDICTION MODEL | SELF PROJECT

Jan'24 – Feb'24

- Developed a stock price prediction model using **LSTM⁵ neural networks**, achieving notable accuracy and reliability in forecasting trends
- Generated reliable buy and sell signals using **Decision Trees** and **Classification Models**, enhancing financial market decision-making
- Detecting market anomalies using **Isolation Forest Algorithm**, improving the model's ability to identify unusual patterns

KEY COURSES TAKEN

| | | | |
|--|--|--|----------------------------------|
| Data Structures and Algorithms (GeeksForGeeks) | MA2040: Probability, Statistics and Stochastic Process | ID2090: Introduction to Scientific Computing | CH2061: Computational Techniques |
| Machine Learning Specialization (Stanford University X Coursera) | Software Design and Architecture Specialization (University of Alberta X Coursera) | CH2013: Computational Programming and process simulation lab | Programming in Python |

POSITIONS OF RESPONSIBILITY

- Manager | Sponsorship and Industrial Relations - CFI | IITM** June'24 - Present
Facilitating industry partnerships and managing flagship events to secure sponsorships and promote club initiatives, leading to enhanced engagement, increased funding, and elevated brand visibility, while ensuring alignment with organizational goals
- Mentor | Saathi | IITM** Apr'23 – Apr'24
Mentored freshmen, providing guidance in academic, professional, and personal development throughout the year

OTHER HIGHLIGHTS

- Won the Inter-Department Cricket Championship**, showcasing exceptional teamwork, sportsmanship, and a competitive edge in cricket
- Actively contributed to the **NSS (National Service Scheme)** organization at IIT Madras, participating in events such as the Clean Drive at Marina Beach, demonstrating a commitment to environmental stewardship and community engagement