

## Education

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### Loyola High School

March 2012 - February 2024

- **CBSE Boards Class 12** - 89 % Marks, School Subject topper : Economics (95/100), Informatics Practices (98/100) *Patna, Bihar, India*
- **Extracurricular Activities & Leaderships** - School House Leader, Member of School Choir, Under 19 player in School Table Tennis Team.
- **Certifications & Online Courses [Coursera]**- Python for Everybody Specialization By University of Michigan, Introduction to Data Science in Python By University of Michigan, Mathematics for Machine Learning Specialization By Imperial College London

## Experience

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### Macro Economics and Informatics Practices Private Tutor

April 2024 - Present

- Conducting online tuitions 4 days and 8-10 hours a week, teaching Macroeconomics to 2 students and Informatics Practices to 1 student.
- Providing custom notes, strategies for scoring top marks, and past exam papers to cover the entire CBSE Class 12 syllabus.
- Students noted significant improvements in their understanding and analytical thinking by following my study routines and techniques.

### Freelancing

August 2022 - Present

- Developed custom portfolio websites for 3 clients, tailored to showcase their skills and professional backgrounds aligning with clients' branding needs.
- Integrated responsive design and interactive elements, enhancing user engagement by 40% and reduced render times by 25%. (React, Three.js)

## Independent Projects

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### Automated Trading Bot | *Python, TensorFlow, NLTK* | [Video Demonstration \(2min\)](#)

May 2024 - Present

- Built a sentiment-enhanced [LSTM trading bot](#) [*Old Version Link Mentioned*] with 60% accuracy across 500 trades, optimizing stock price predictions.
- Built an interactive web app for automated stock predictions and sentiment-driven news analysis, empowering users with actionable insights.
- Aimed at bridging the financial literacy gap in India, where 95% of traders incur losses due to inadequate knowledge, by offering data-driven insights.

### Mental Health Chatbot | *Python, TensorFlow, Flask, HTML/CSS*

August 2023 - February 2024

- Developed an AI-powered chatbot trained on **over 2,000+ intents** to provide real-time mental health support for users experiencing depression.
- Implemented advanced features such as facial expression analysis to better understand user emotions, resulting in **85% accuracy in emotion detection**.
- Deployed as a responsive web app with image upload, session history, and continuous interaction, **praised by 30+ classmates** for its user-friendly interface.

### Football Analysis System | *Python, OpenCV, YOLO, KMeans*

December 2023

- Built a YOLO-based system for detecting and tracking players, referees, and footballs, using KMeans for team classification by jersey color.
- Applied optical flow and perspective transformation to accurately calculate player movement, speed, and distance with high accuracy.
- Enhanced football performance analysis by providing metrics like ball possession and player dynamics for strategic insights.

### Image Classification Model | *Python, PyTorch, TensorFlow*

March - May 2023

- Developed a deep learning model with 83% accuracy for classifying ripe and unripe tomatoes, reducing sorting errors by 30%.
- Utilized a custom CNN with transfer learning on 200+ images, boosting accuracy by 15% over baseline models.
- When integrated with AI-driven machines, this solution can automate sorting, **cutting labor costs by 50%** & reducing waste in the food supply chain.

## Team Project

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### Sustainable Village Using Hydroponics Technology | *Tech Lead, House Leader*

December 3, 2022

*CBSE Regional Science Exhibition*

*Loyola High School, Patna*

- **Led a team of 8 students** to develop a hydroponic sustainable village, **reducing fertilizer use by 70% & water waste by 90%**, powered by solar panels.
- Automated water level detection & refilling with email alert for low levels, using Arduino & Multiple Sensors. (Programmed using C++ & Python.)
- **Won 2nd place** in the Grade 9-12 division, earning ₹5,000 INR; judges highlighted its potential as the **future of farming with high-level automation**.

## Technical Skill

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- **Languages** - Python, C, C++, Java, JavaScript, HTML/CSS
- **Tools & Frameworks** - TensorFlow/Keras, Pytorch, OpenCV, Flask, React, Web API's, NLTK, MySQL, Google Colab, AWS, Google Cloud
- **Interests** - Artificial Intelligence, Artificial Superintelligence, Computer Vision, Machine Learning, Drone cinematography, Singing