

# KUNJ GUPTA

Backend Web Developer  
Third Year Undergraduate  
Computer Science and Engineering

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## EXPERIENCE

**Syntalix** | Co-Founder and Backend Lead  
*AI Startup and Consultancy*

Mar 2023 - Present  
[\[Website\]](#)

- Built an extensive **ticket booking** backend in Node, Fastify & **Typescript** incorporating **Redis** caching, **RabbitMQ** & **Stripe**.
- Built a **YouTube clone backend**, implementing user authentication, video management, and comment functionality.
- Led a team of 2** and executed Google Ads campaign for a client, thereby increasing **ROI by 35%** over several months.
- Integrated OpenAI and [Microsoft's Taskweaver](#) into a React-based application, streamlining complex workflows.
- Designed and implemented key backend features for an **e-commerce** platform using **NodeJS**, **ExpressJs** and **MongoDB**.

**IEM IEDC** | Junior Researcher

Dec 2022 - Sept 2023  
[\[Website\]](#)

*Research and Development lab of IEM, Kolkata*

- Implemented a Machine Learning (ML) model using **Convolutional Neural Networks (CNN)** to automate detection of **deforestation, poaching, forest fire** and **monitor animals** using drone camera - Aerial Forest Ranger.
- Reduced **operational costs** by up to **15%** and **manual intervention** by **80%** compared to traditional surveillance methods by reducing the reliance on fixed cameras that deteriorate over time.
- Filed a **patent** and won **3+** project exhibitions, and learnt microcontroller coding and basics of drone building.
- Languages and Libraries: Python, TensorFlow, OpenCV, Keras, PIL, Pandas, Arduino, Esp32.

## EDUCATION

**B.Tech - Computer Science and Engineering (Artificial Intelligence)**

2022-26(exp.)  
CGPA: 9.30

*Institute of Engineering and Management, SaltLake, Kolkata, India*

**AISSCE - PCM with Computer Science (Senior Secondary)**

2019-21  
93.2%

*Delhi Public School, Ruby Park, Kolkata, India*

## PROJECTS

**BitsnBite**

[Website](#) | [Github](#) | Nov 2024

- Built a **food delivery app**, implementing user authentication, cart management, order history, drafts, and profile updates.
- Implemented **payment** page features with **PayPal** integration & **OpenStreetMap**, improving location tracking accuracy by **15%**.
- Languages and Libraries: Node, Javascript, React, Express, Cloudinary, MongoDB, Mailgun, PayPal SDK.

**KawniX Flow**

[Website](#) | [Github](#) | Aug 2024

- Developed an interactive **flowchart tool** for visualizing code structures with drag-and-drop functionality, optimized to handle complex flowcharts up to **100 nodes** while maintaining sub-second response times, reducing **diagram creation time by 42%**.
- Languages and Libraries: React, JavaScript, OpenAI API, React Flow, React DnD, Tailwind CSS.

**PiGuard**

[Video](#) | [Github](#) | Feb 2024

- Developed a **Raspberry Pi**-based facial recognition door lock system integrating deep learning algorithms for secure access.
- Real-time communication with the owner via **SMS alerts** and **OTP verification** for unrecognized faces sent **within 2 seconds**.
- Languages and Libraries: Debian-based Bookworm OS, Python, DeepFace, OpenCV, NumPy, Twilio, Miniforge Anaconda.

**The Continental**

[Github](#) | Oct 2020

- Developed a tkinter application which simulates a real life **Bank Management System**.
- Languages and Libraries: Python, MySQL, yagmail, PIL, tkinter.

## PATENTS AND PUBLICATIONS

J=JOURNAL, P=PATENT

[P.1] Kunj Gupta, et al. (2023). [Aerial Forest Ranger](#). Indian Patent Office, Patent No. 202331066476. Status: RQ Filed, awaiting publication.

[J.1] Kunj Gupta, et al. (2023). [Poseidon: Surface Water Garbage Collector](#). *International Journal of Innovative Research in Physics*, Vol. 4, Issue 2, pp. 27-31. DOI: 10.15864/ijiip.4205

## ACHIEVEMENTS

- YUKTI** (MoE) Innovation Challenge **2023 Finalist**. Ranked among the **Top 100** startup ideas in India.
- Global rank 389** in the Codechef Starters 153, 2024
- Winner** of multiple coding contests and exhibitions of Tech-fests - **SMF'23**, **CodeBreak Odyssey'23**, **Elevate'24**
- Qualified PRMO 2019** - Maths Olympiad Organized by HBCSE and MTA

## SKILLS

**Languages:** C/C++, Python, Java, JavaScript, Typescript, HTML, CSS

**Tools & Frameworks:** Git/Github, NodeJS, ExpressJS, NestJS, Fastify, Flask, Appwrite, REST, Agile, Stripe, Paypal, RabbitMQ

**Databases:** MongoDB, PostgreSQL, MySQL

**Cloud Services:** Google Cloud Platform (GCP), Firebase, Cloudinary, Render, Twilio, Mailgun

**Operating Systems:** Microsoft Windows, Linux - Ubuntu, Bookworm (Debian)

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Object Oriented Programming, Database Management System, Computer Organization & Architecture, Artificial Intelligence & Machine Learning, MATLAB

**Soft Skills:** Problem Solving, Self-learning, Presentation, Adaptability, Communication

## EXTRACURRICULAR

- Attended a month long hands-on workshop on **Cloud Computing** and **Generative AI** by **Google**.
- Participated in various competitive coding competitions conducted by **IIT Kharagpur** and **TCS**.
- Gained early proficiency in mental arithmetic through **abacus** training.
- Enthusiastic about sports and won various accolades in Table Tennis (District-level), Basketball and Swimming.