

KUNJ GUPTA

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Experience

Syntalix | Backend Lead | [\[Letter of Recommendation\]](#)
Product Startup and Consultancy

Mar 2023 - Dec 2024
Remote

- Engineered scalable backend **microservices**, including **real-time data processing**, **caching mechanisms**, and third-party API integrations, ensuring high scalability and performance, with **99.9% uptime**.
- Spearheaded key backend features for an **e-commerce** platform in **MERN** stack, improving API response time by **40%**.
- Led a team of 2** and executed Google Ads campaign for a client, adapting strategies to boost **ROI by 35%** over several months.
- Languages and Libraries: MERN, Fastify, NestJS, Postgres, Redis, RabbitMQ, Stripe, Flask, Cloudinary, Firebase, TypeScript

IEM IEDC | Junior Researcher
Research and Development lab of IEM, Kolkata

Dec 2022 - Sept 2023
Kolkata, India

- Designed a **MERN** server for **real-time data processing** and integration with **drone** systems & **deep learning** algorithms, trained to identify **20+ animal species**, automating detection of **deforestation**, **poaching**, **forest fires** & **wildlife monitoring**.
- 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 learned microcontroller coding and basics of drone building.
- Languages and Libraries: MERN, Arduino, ESP32.

Education

B.Tech - Computer Science and Engineering (Artificial Intelligence)
Institute of Engineering and Management, Salt Lake, Kolkata, India

2022 - 26
CGPA: **9.32**

AISSCE (CBSE) - PCM with Computer Science (Senior Secondary)
Delhi Public School, Ruby Park, Kolkata, India

2019 - 21
93.2%

ICSE - Science with Computer Applications (Standard 10)
Welland Gouldsmith School, Patuli, Kolkata, India

2019
96.2%

Projects

BitsnBite

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

- Orchestrated a **food delivery app**, implementing user authentication, cart management, order history, drafts, & 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](#) | 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

[Demo](#) | [GitHub](#) | Feb 2024

- Designed a **Raspberry Pi**-based facial recognition door lock system integrating deep learning algorithms with **96.5% accuracy**.
- 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.

The Continental

[GitHub](#) | Oct 2020

- Architected a Tkinter-based **Bank Management System**, enhancing **data retrieval speed** by **35%** with refined SQL queries.
- 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.

[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
- Qualified PRMO 2019** - Maths Olympiad Organized by HBCSE and MTA. Ranked among the **top 300** from my region.
- Winner** of multiple coding contests and exhibitions of Tech-fests - **800+** participants.

Skills

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

Tools & Frameworks: Git/GitHub, NodeJS, ExpressJS, NestJS, Fastify, REST, Flask, Agile

Databases: MongoDB, PostgreSQL, Redis, MySQL

Cloud Services: Render, Firebase, Cloudinary, Twilio, Mailgun, Google Cloud

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

Relevant Coursework: DSA, System Design, OS, OOP, DBMS, COA, AIML, MATLAB

Extracurricular

- Technical Blog:** 'Printf/Cout in C/C++ GCC: Decoding the Confusing Outputs'. [\[Medium\]](#)
- Completed an intensive **30-day** long hands-on workshop on **Cloud Computing** and **Generative AI** by **Google**.
- Participated in **5+** competitive coding competitions conducted by **IIT Kharagpur** and **TCS**.
- Won various accolades in Table Tennis (District-level), Basketball and Swimming (10+ years).