

# PRINCE RAJ

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## EXPERIENCE

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### Backend for a Social Media Platform. ([View here](#))

Feb - July, 2025

- Solely responsible for designing and building a robust and scalable backend API from scratch using NestJS for a social media platform, encompassing 30+ endpoints for user management, post creation, social connections, and other core features without compromising security and scalability.
- Implemented 5+ core features, like Sign in with Google (leveraging OAuth 2.0), OTP-based verification (using Brevo), profile customization (including profile picture upload, bio, location, etc.), and hashtags support in posts, etc.
- Designed and optimized the database schema using MongoDB, incorporating geospatial indexing for efficient retrieval of location-based data, to ensure scalability and efficient handling of a large volume of user data and concurrent requests.

## ACHIEVEMENTS

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### Patent on IoT-Enabled Predictive Farming System with Resource Optimization ([View Doc. Here](#))

Application(202531042207 A) published by the Indian Patent Office, of Government of India on May 23, 2025

## SKILLS

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|-------------------------|---|
| Languages               | JavaScript, TypeScript, HTML, CSS   |
| Technologies/Frameworks | Node.js, NestJS, ExpressJS, ReactJS, Google Firebase, Vercel, RESTful API, MongoDB, JQuery, Tailwind CSS, Tesseract.js (Image Processing) |
| Developer Tools         | Visual Studio Code, Git, GitHub, Vercel, Postman, MongoDB Atlas, Cursor   |

## PROJECTS

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### OCR-based Marksheet Scanner and CSV Converter Tool. ([View here](#))

- Developed an open-source web-based OCR application using Tesseract.js that automates the conversion of mark sheets to CSV, handling 20+ fields of data per mark sheet like, student name, subject, grades.
- Developed custom utility functions with the proper documentation to extract relevant data from the mark sheets, ensuring accuracy of about 99% in the converted CSV format.

### Profile Cards Generator. ([Try it here](#))

- Created a full-stack website that generates shareable and personalized profile cards based on user-input data in real-time using a scalable API consisting of 5 endpoints, built using NodeJS and Express.
- Optimized API performance by implementing debouncing and field validations on front-end, resulting in significantly less load on server.
- Deployed on Vercel for efficient and reliable profile rendering, leveraging their platform's high availability infrastructure and achieving a 99.95% uptime rate.

## EDUCATION

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### Bachelor of Technology, Narula Institute of Technology

2023 - 2027

Computer Science Engineering With Specialization in Artificial Intelligence and Machine Learning

CGPA(out of 10): 8.68

## EXTRA-CURRICULAR ACTIVITIES

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- Active member of the Coding Club and Google Developer Student Community at Narula Institute of Technology, participating in workshops, hackathons, and events organized by [Google Developer Groups, Kolkata](#).