DEBANJAN SAHOO

Aspiring Software Engineer | Full-Stack Developer | AI & Data Science Enthusiast

Paschim Medinipur, West Bengal, India

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PROFESSIONAL SUMMARY

Software Engineer Intern (2027 pass-out) with strong foundations in **computer science, Python, networking (TCP/IP, routing, switching), and debugging**. Experienced in **API development, data pipelines, and AI/ML integration**. Skilled in **testing, optimization, and collaborative problem-solving**.

EDUCATION

ITER, Siksha O Anusandhan	**2023 – 2027**
B.Tech - Computer Science and Engineering - **CGPA** *- 9.68*	*Bhubaneswar, Odisha*

Indian Institute of Technology, Madras	**2023 – 2027**
B.S. - Data Science and Applications - **CGPA** *- 9.81*	*Chennai, Tamil Nadu*

EXPERIENCE

Software Engineer Intern – Research at IIT Bhubaneswar ⬀	**May 2025 - July 2025**
Role - Summer Intern	*Bhubaneswar, Odisha*

- Developed computer vision models for **Visual Surveillance, Object Detection, and Anomaly Detection using Python, OpenCV, and deep learning frameworks.**
- Gained hands-on experience in **computer vision, data handling, and model deployment.**
- Deployed AI/ML models, gaining hands-on experience in debugging, testing, and model deployment workflows.

Summer SE Intern at South Eastern Railway, Kharagpur ⬀	**July 2025 - Aug 2025**
Role - Systems Trainee	*Kharagpur, West Bengal*

- Completed a training program at the Multi Disciplinary Zonal Training Institute, South Eastern Railway with project-based learning in system-level engineering concepts.
- Applied fundamentals of networking, operating systems, and debugging techniques to analyze infrastructure-related scenarios.
- Enhanced problem-solving skills and practical understanding of engineering systems.

Participant – Kodlama: The 6hr AI Quickathon ⬀	**May 2025**
Offline Hackathon – ITER	*Bhubaneswar, Odisha*

- Secured a position among the **Top 25** participants out of numerous entries in an intense 6-hour AI-based hackathon.
- Applied rapid prototyping and AI problem-solving skills under time constraints.
- Demonstrated strong teamwork, creativity, and performance under pressure.

PROJECTS

Virtual Teaching Assistant API ⬀	FastAPI, Python, OpenAI, Discourse	**May 2025 - June 2025**

- Built an API that automated answers to 200+ student queries using scraped data from IIT Madras portals.
- Integrated GPT-based natural language understanding to handle both text queries and base64-encoded image inputs.
- Developed under the guidance of **Prof. Anand S. and Carlton D'Silva at IIT Madras**; open-sourced with MIT License.

Data Analyst Agent API ⬀	FastAPI, Python, DuckDB, OpenAI	**Aug 2025**

- Developed a REST API endpoint (/api/) that accepts POST requests with questions.txt and optional data files (.csv, .json, .parquet) for automated analysis.
- Integrated LLM-powered natural language understanding to source, prepare, analyze, and visualize structured and unstructured data.
- Implemented data processing pipelines with DuckDB and Pandas, supporting queries on large-scale datasets (e.g., Indian High Court Judgements).

Rural Women Empowerment Hub ↗ | React, JavaScript, CSS, HTML   **2025**

- Developed a React-based platform used by 100+ users to access 50+ government schemes for rural women empowerment.
- Implemented a search and filter system to help users easily find relevant schemes.
- Added a dark mode feature for better user experience and accessibility.

Car Racing Game ↗ | HTML, CSS, JavaScript, Canvas API   **2025**

- Designed a simple 2D car racing game using HTML5 Canvas API and JavaScript.
- Implemented obstacle generation, collision detection, and score tracking.
- Designed interactive controls allowing players to navigate using keyboard arrow keys.
- Created a dynamic game loop for smooth animations and increasing difficulty.

Data-Driven Analysis for Karunamoyee Bastralaya ↗ | Excel,Google Sheets,Data Analysis   **2025**

- Analyzed 12 months of sales data, leading to an improvement in inventory planning.
- Collected, cleaned, and analyzed one year of sales and inventory data using Excel and Python.
- Developed data dashboards visualizing key insights, including sales trends, profit analysis, and seasonal revenue fluctuations.

TECHNICAL SKILLS

- **Languages:** Python, C++, Java, JavaScript, C
- **Web Frameworks:** HTML5, CSS3, React.js, Node.js, Express.js
- **Systems:** Linux/Unix, OS concepts, Debugging tools
- **Networking:** TCP/IP, Routing, Switching, Firewalls, VPN (basic exposure)
- **AI Tools:** OpenCV, TensorFlow/PyTorch,LLM, AIML, AVS Code, Eclipse IDE, IntelliJ, Canva, Git

CERTIFICATIONS

- Foundation Level in Programming and Data Science - IIT Madras
- Hackathon Participation – Roboweek 3.0, NIT Hamirpur (Team Code Warriors)
- AR/VR Drone Workshop, hosted at IIIT Bhubaneswar
- Implementing AI using Azure - Microsoft
- Introduction to ML - Forecasting, Anomaly Detection, and applications - PayPal

EXTRACURRICULAR

- Code Crafters Member,IIT Madras from 2024 to 2025
- Alpha Gamma Nu Member,IIT Madras from 2024 to 2025
- Group Leader (GL) in Nallamala House,IIT Madras. 09-2024 to 11-2024