

Balkishan Bajpay

Full Stack Developer | Researcher | Competitive Programmer

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Experience

CODEXP

Dec 2024 – Feb 2025

Frontend Developer—Imphal

Hybrid (Onsite + Remote)

- Developed a responsive tourism website for Keibul Lamjao National Park, ensuring a scalable frontend.
- Enforced strict type safety to prevent runtime errors & boost UI performance, with projected **40%** booking efficiency gains.
- Integrated RESTful APIs** for seamless data fetching and state management, optimizing **load speed by 50%**.
- Enhanced user experience through iterative **Agile development**, resulting in a **20-35%** improvement in user engagement.

Education

Indian Institute of Information Technology Senapati

Nov 2022 – May 2026

Bachelor of Technology in Computer Science; CPI – 8.40

Imphal, Manipur

Courses: Data Structures & Algorithms, Artificial Intelligence, Computer Network, Database Management System, Information Retrieval, Operating System, Data Communication and Internet Protocols

Publications

Leveraging Pathfinding Algorithms for Efficient Metro Routing and Scheduling

Mar 2025

- Published in the **IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI-2025)**. 📄
- Awarded **2nd position** in **Best Research Paper Award** under the track IT-enabled Management for Social Change. 🏆
- Selected from **2,800+** research submissions worldwide, with a highly competitive **acceptance rate of less than 20%**.

Projects

Metro Routing & Scheduling System | Dr. Dennis | C++, STL, OR-Tools 🐙

Aug 2024 – Nov 2024

- Boosted metro navigation with **Dijkstra & A* algorithm** using heuristics, enhancing path-finding efficiency by **44.86%**.
- Streamlined scheduling, cutting travel delays by **23%** & boosting throughput, benefiting **10-15%** of urban transit system.
- Implemented real-time adjustments to metro schedules, **reducing idle time** and improving operational efficiency.

EduNexus - EdTech Platform | React.js, Express.js, MongoDB, Tailwind CSS 🐙🔗

Dec 2024 – Feb 2025

- Engineered a highly scalable EdTech platform with secure authentication, course management, and payment integration.
- Optimized backend performance, significantly reducing API response time by **25%** and boosting user engagement by **30%**.
- Designed a modern responsive UI/UX with interactive dashboards, ensuring accessibility and improved retention.

NavSarjan - Research Management Platform | React.js, Node.js, MongoDB 🐙

Oct 2024 – Dec 2024

- Developed for **200+** institutions in Gujarat, centralizing research, IPR, and start-up management to enhance efficiency.
- Improved transparency and decision-making with **real-time analytics**, resulting in a **30% boost** in resource utilization.

Bufferbloat Reducer | Dr. Navanath | Python, NS-3 Simulator 🐙

Jul 2023 – Dec 2024

- Crafted an MLFQ-based algorithm to reduce latency and improve throughput via optimized packet prioritization.
- Enhanced network stability with fair bandwidth allocation, minimizing congestion and packet loss in real-time applications.

Skills

- Languages:** Proficient in C++, JavaScript | Familiar with C, Java, TypeScript, SQL, Bash, Python, PHP, HTML & CSS
- Frameworks & Libraries:** Tailwind CSS, React.js, Node.js, Next.js, Express.js, Django, Redux, STL, Axios, shaden UI
- Databases & Tools:** MySQL, SQLite, MongoDB, Git, GitHub, IntelliJ, Postman, Apache
- Soft Skills:** Leadership, Event Management, Writing, Public Speaking, Time Management
- Exposure:** LaTeX, MySQL Workbench, NI Multisim, Octave, Bootstrap, Wireshark, Linux, JWT

Achievements

- Winner of **Smart India Hackathon 2024 (SIH'24)** organized at IIT Gandhinagar. 🏆 Dec 2024
- Secured the **1st position** in the **Cyber Security Quiz**, a national-level contest by Data Pro Pvt. Ltd. 🏆 May 2024
- Achieved **3rd position** in the **Ahoubha'24 Techfest Hackathon**, competing among top teams. 🏆 Apr 2024
- Contributed to multiple open-source projects as a **Hacktoberfest 2024** contributor. 🏆 Oct 2024
- Achieved a **CodeChef rating above 1400**, demonstrating strong competitive programming skills. 🏆 2025
- Ranked **2nd in the CSE department** with a **9.41 SPI** in the **5th semester**. 🏆 Dec 2024

Position of Responsibility

Google Developer Group (GDG) IIIT Manipur

Sep 2024 – Present

Development Coordinator 🏆

IIIT Senapati

- Lead the planning and execution of technical events, workshops, and hackathons, fostering an engaging and collaborative developer community.