





# Anish Kumar

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## EDUCATION

**Indian Institute of Technology(IIT), Patna:** CGPA: 7.34

**4 August 2023 – 31 May 2027**(*expected*)

*Bachelor of Technology in Mathematics and Computing*

*Patna, India*

- Courses: Data Structures and Algorithms(DSA), Machine Learning(ML), Object Oriented Programming, Database Management System (SQL and Relational Database), Probability and Statistics, Numerical Linear Algebra, Discrete Mathematics, Computer Architecture

**Senior Secondary (CBSE):** Percentage: 91.2%

**2023**

## PROJECTS

**OneIITP (App Development)** | |  PlayStore | |  AppStore | |  OneAttend

**22 August 2024 – Present**

- **Tech Stack:** React Native, Firebase, JavaScript, Microsoft Azure, Expo, React, Vercel
- Created IIT Patna's official student app serving **2,000+ active users** with features including timetables, attendance tracking, marketplace, and campus resources, increasing engagement by **40%** and achieving **15,000+ reads**, **1,500+ downloads**, and **4.9/5** rating.
- Executed a **QR-based anti-proxy attendance system** with auto-updating codes, reducing proxies by **90%**, and designed **OneAttend** web portal for professors to track and manage attendance details with analytics dashboard integrated with Google Sheets.
- Integrated **Azure authentication** and **Google Sheets API** for real-time bus schedules, improving campus-wide convenience by **30%**.

**Facility Routing Engine** | |  Github Link | |  Live Website

**March 2026**

- **Tech Stack:** Next.js, React 19, TypeScript, Zustand, Canvas API, A\* / Dijkstra, Vercel
- Built a multi-floor indoor routing platform with a visual map editor for placing rooms, corridors, stairs, elevators, entry/exit points, and connecting them as a weighted graph.
- Implemented emergency-aware pathfinding that supports fire, medical, security, smoke, and hazmat simulations, with node-level incident marking and automatic rerouting around hazardous zones.
- Added route optimization rules for different user roles, including emergency-zone avoidance toggles and fire-safe routing behavior that prefers stairs over lifts during fire scenarios.
- Created reusable scenario presets for complex testing, including a 4-floor hotel layout with 20 rooms per floor, dual lift cores, dual stairwells, and safety nodes such as fire extinguishers.

**TPU - Systolic Array MatMul Simulator** | |  Github Link | |  Deployed Link

**April 2025**

- **Tech Stack:** React, JavaScript, Python, Git
- Developed an interactive visualization tool comparing CPU, GPU, and TPU architectures for matrix multiplication.
- Implemented 3 distinct visualization modes (sequential, parallel, systolic array) with step-by-step animations and cycle-by-cycle breakdowns.
- Designed comprehensive comparison dashboard highlighting performance metrics (8 times vs 512 times speed differences) and architectural trade-offs.
- Created responsive UI with interactive matrix editors and real-time visualization of processing element states for educational purposes.

## SKILLS

- **Languages:** Python, C, C++, JavaScript (React/Node), TypeScript, Wordpress
- **Database:** SQL (PostgreSQL, MySQL), MongoDB
- **Tools/Platforms:** DSA, OOP, Git, GitHub, Linux, Windows, Firebase, Postman, Vercel, Docker, Figma, Gemini API
- **Frameworks:** React.js, Next.js, Node.js, FastAPI, RESTAPI, Tailwind
- **Libraries:** Pandas, NumPy, Random Forest, XGB, React, OpenCV

## ACHIEVEMENTS

- **Candidate Master** (1927) rated on **Codeforces** (Competitive Programming) - **Codeforces Link**
- Ranked **186th** globally in **Meta Hacker Cup 2025** (Progressed to Round 3) - **Certificate Link**
- Secured **6th** rank among 6000+ submissions with cash prize in **Volatility Curve Prediction** hackathon on Kaggle by **NK Securities Research in June 2025** - **Certificate Link**
- Finished among **top 10** teams in **Murf Coding Challenge 2025**, earning certificate and free credits
- Achieved **4 Star** rating on **CodeChef** - **Codechef Link**
- Secured **Global Rank 40** in **CodeChef Starters 219**
- Reached **Round 2** in **The Big Code Challenge by Google 2026**
- Ranked **top 0.76%** in **JEE Advanced** (1.1M+ candidates)
- Selected for **Summer of Bitcoin 2025**; contributed to **ZeusLN Wallet** in Linux environment under mentorship by implementing and validating on-chain message signing and verification using **yarn run test, lint, tsc, and prettier**.
- Achieved **337** rank among **38,278** participants in **Codeforces Round 1027 (Div. 3)**
- Ranked **under 30** in Bihar Zone in **NTSE Stage 1**

## POSITIONS OF RESPONSIBILITY — VOLUNTEER EXPERIENCE

**Dev Lead for Cyber Security Problem Statement:** *ICTC 3.0*

**10 March 2025 - 5 April 2025**

-  Deployed Website Solution  Problem Statement

**Dev & Design Team:** *Inter IIT Cult 2024, IIT Patna*

**December 2024**

**Overall Tech Coordinator** *Anwasha (Cultural Fest of IIT Patna)*

**April 2025**

## CERTIFICATIONS

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<b>Meta Hacker Cup 2025:</b> Qualified till Round 3    Certificate Link	<b>2026</b>
<b>Certificate of Achievement:</b> NK Securities Research Hackathon    Certificate Link	<b>9 June 2025</b>
<b>Certificate of Achievement:</b> Murf AI Coding Challenge 2025 Hackathon    Certificate Link	<b>9 June 2025</b>
<b>Data Structures and Algorithms with C/C++:</b> Pregrad    Certificate Link	<b>May 2024</b>
<b>Generative AI Study Jams 2024:</b> Google Developer Groups IIT Patna    Certificate Link	<b>5 August 2024</b>
<b>Google Cloud Computing Foundations:</b> Infrastructure in Google Cloud    Certificate Link	<b>26 October 2023</b>
<b>Deloitte Data Analytics Job Simulation on Forage</b>    Certificate Link	<b>6th May 2025</b>