

# Akhand Pratap Singh

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## EDUCATION

<b>B.Tech in Computer Science and Engineering</b> <i>INDIAN INSTITUTE OF TECHNOLOGY, PATNA</i>	NOV 2022 – MAY 2026 <i>CPI: 8.45</i>
<b>Class XII (CBSE)</b> <i>Sunbeam School Varuna, Varanasi</i>	APR 2020 – MAR 2021 <i>Marks: 94.6%</i>
<b>Class X (CBSE)</b> <i>Sunbeam School Varuna, Varanasi</i>	APR 2018 – MAR 2019 <i>Marks: 93.4%</i>

## PROJECTS

<b>Sah-AI-yak</b>   <i>TensorFlow/Keras, Python</i>   AUG 2024 – NOV 2024	<b>GitHub</b>   <b>Link</b>
<ul style="list-style-type: none"><li>Developed a web-based mental health diagnostic platform using <b>React</b>, integrating <b>Azure AI Services</b> and <b>Hugging Face models</b>. Analyzed speech, text, and image inputs to assess user wellbeing and recommend personalized remedies.</li><li>Hugging Face models like <b>Zephyr</b>, a light LLM was used and trained over a range of mental health books. <b>face-api</b> was used to classify emotions of the photograph and speech input/output using <b>sesame</b> and <b>Web-API</b></li><li>Built an Azure AI-powered chatbot with avatar integration, optimizing user engagement and response accuracy.</li></ul>	
<b>Faculty Registration Portal</b>   <i>Node.js, MySQL, Docker, Passport</i>   APR 2024 – MAY 2024	<b>GitHub</b>   <b>Link</b>
<ul style="list-style-type: none"><li>Built a multi-page Faculty Registration Portal with full <b>CRUD</b> operations, automating data collection and <b>PDF generation</b> for 200+ applicants, as part of a 2-member team.</li><li>Implemented session-based authentication using <b>bcrypt</b> and <b>Passport.js</b>, enhancing data security for all users.</li><li>Leveraged <b>Docker containerization</b> to achieve scalable and efficient deployments.</li></ul>	

## PUBLICATIONS

<b>OCUS: A Game-Theoretic Approach to Optimal UAV Coalitions</b>   JUL 2024 – DEC 2024	<b>Link</b>
<ul style="list-style-type: none"><li>Manuscript Number - ADHOC-D-25-00876   Under Review in Ad Hoc Networks Journal</li><li>Co-authored a research paper where I developed and evaluated a payoff-driven algorithm leveraging <b>Nash Equilibrium</b> principles, resulting in 25–30% more stable UAV coalitions compared to decentralized approaches, with <b>improved resource utilization and reduced operational costs</b>.</li></ul>	

## SKILLS

**Languages:** C/C++, Python, JavaScript, HTML/CSS  
**Libraries/Frameworks:** ReactJS, Node.js, Tailwind CSS, Passport.js, Express.js, Python Libraries, LaTeX  
**Dev Tools:** RESTfull APIs, Postman, Wireshark, TCP/IP, VS Code, Git, GitHub, Docker, VirtualBox  
**Cloud/Databases:** Azure AI, Azure Cloud, MySQL, Firebase, Supabase

## COURSEWORK

**Courses:** Data Structures, Algorithms, Database Management System, Object Oriented Programming, Operating Systems, Computer Networking, Artificial Intelligence, Machine Learning, Computer Graphics

## ACHIEVEMENTS

- Secured a rank of **2539** in JEE Advanced 2022 out of **1,60,000** students all over India.
- Ranked in top **0.4%** in JEE Mains 2022 out of **10,00,000** students all over India.
- Qualified till **round 2** in **Meta Hacker Cup**, with a final rank of **3636**.
- Attained **first rank** in Microsoft Azure AI Hackathon, and **2nd position** in Hackvita 3.0
- Specialist** on **Codeforces** with a peak rating of **1500**. **Codeforces Profile**
- Achieved a top rating of **1715 (3 Star)** on **CodeChef**. **CodeChef Profile**
- Ranked in top **6.79% users** on **Leetcode** platform with peak rating of **1822** **Leetcode Profile**
- Selected among **top 3% (3,000 out of 100,000)** in **Amazon ML Summer School 2024**

## POSITION OF RESPONSIBILITY

<b>Student's Technical Council, Gymkhana</b>   <i>Technical Secretary</i>	MAR 2023 – MAY 2024
<ul style="list-style-type: none"><li>Spearheaded 15+ technical initiatives, increasing event participation by 80% and revitalizing ICTC.</li></ul>	
<b>Inter IIT Tech Meet 12.0</b>   <i>Deputy Contingent Leader</i>	NOV 2023 – DEC 2023
<ul style="list-style-type: none"><li>Managed IIT Patna's contingent at Inter IIT Tech Meet 12.0, achieving 8th place among 23 IITs.</li></ul>	
<b>Inter IIT Tech Meet 13.0</b>   <i>ISRO Problem Statement Contingent Member</i>	NOV 2024 – DEC 2024
<ul style="list-style-type: none"><li>Collaborated in an 8-member team on ISRO's High Prep PS, securing 4th place in the presentation round.</li></ul>	
<b>Quiz Club, IIT Patna</b>   <i>Coordinator</i>	APR 2023 – MAY 2025
<ul style="list-style-type: none"><li>Organized 30+ intra-college and won multiple inter-college quizzes including Inter-IIT and Nihilant (Inter IIT-IIM)</li></ul>	