

# Mahima Nandana K

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## PROFILE

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I am a Computer Science and Mathematics undergraduate at BITS Pilani with a passion for solving real-world business and societal problems through technology and structured thinking. Chairperson of ACM-W, actively mentoring peers and building inclusive technical communities. Interested in building scalable solutions and continuously exploring software engineering, AI/ML, data-driven solutions and technology consulting.

## EDUCATION

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### Birla Institute of Technology And Science - Pilani

Hyderabad Campus

*B.E. Computer Science and M.Sc. Mathematics — CGPA: 8.71*

2023 – Present

Relevant Coursework: Object-Oriented Programming (Java), Probability & Statistics, Linear Algebra, Real

Analysis, Operations Research, Data Structures

## EXPERIENCE

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### SDE Intern – Indium Software

May 2025 – July 2025

*Interactive Data Insights Bot using Data Science + MCP*

- Built an automated data analysis pipeline transforming raw datasets into actionable insights
- Integrated FastAPI backend, workflow automation, and LLM-based insight generation
- Enabled real-time delivery of analytics and visualizations through collaboration platforms

## RESEARCH/ACADEMIC PROJECTS

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### Adaptive Learning with Gamification (Laboratory Project)

*Faculty Mentor: Prof. P T V Praveen Kumar*

- Studied adaptive learning systems incorporating dynamic difficulty adjustment mechanisms
- Analyzed the role of gamification in improving learner engagement and learning outcomes
- Derived design insights to balance educational effectiveness with long-term motivation
- Connected theoretical learning models with system design considerations for adaptive platforms

### Algebraic Structures and Proof-Based Reasoning (Study Project)

*Faculty Mentor: Prof. Pratyusha Chattopadhyay*

- Developed structured approaches to constructing and validating mathematical proofs
- Explored core algebraic structures through rigorous, proof-based reasoning
- Strengthened logical reasoning and mathematical rigor through theoretical problem solving

## TECHNICAL PROJECTS

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### E-commerce Web Application | *Java, SQL, HTML/CSS* | GitHub

- Developed a full-stack e-commerce platform supporting customers, retailers, and wholesalers
- Implemented OTP-based email authentication and role-based access control
- Built core features including product browsing, cart management, checkout, and order tracking
- Designed backend logic with modular and object-oriented principles for scalability

### Queueing System Analysis – Library Stationery Shop | *Queueing Theory, Mathematical Modeling*

- Collected real-world data and modeled the system using M/M/1 queueing theory
- Computed performance metrics including arrival rate, utilization, waiting time, and queue length
- Analyzed system bottlenecks and service efficiency under varying demand conditions
- Proposed operational improvements to reduce customer waiting time and congestion

## LEADERSHIP & RESPONSIBILITY

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### **Chairperson – ACM-W**

*BITS Pilani, Hyderabad Campus*

- Leading the student chapter by planning technical initiatives and mentoring junior members to boost women's participation in tech through coding workshops, events and projects.

### **Operations Lead – SWMC (Student Welfare and Mentorship Committee)**

*BITS Pilani, Hyderabad Campus*

- Led planning and coordination of student events, taking ownership of execution and ensuring smooth on-ground operations

### **Member – BITS Hyderabad Consulting Group (BHCG)**

*BITS Pilani, Hyderabad Campus*

- Worked on structured consulting problem-solving and contributed to a project analyzing sustainability strategies in the airline industry, backed by Inspire Infosol

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, SQL, MySQL, JSON, HTML/CSS

**Tools and Frameworks:** FastAPI, Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, TensorFlow, IntelliJ, Eclipse, HuggingFace, Exploratory Data Analysis

**Libraries:** pandas, NumPy, Matplotlib, Seaborn