

Arpan Mathur

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Objective

- Enthusiastic B.Tech Computer Science student specialising in AI & ML, seeking to contribute to innovative teams by developing scalable software solutions and distributed systems, leveraging Python, machine learning, and data structures, with a proven track record in innovation and team collaboration.

Education

- B.Tech in Computer Science (AI & ML)**, VIT Bhopal University, Madhya Pradesh, India
- Achieved **CGPA 8.89/10** (till Semester 3), Semester 4 **GPA: 9.6/10**, Expected Graduation: July 2027
- Class 12th (CBSE)**, SGGGS Collegiate School, Chandigarh, India | Earned **85%**, Completed: 2023
- Class 10th (ICSE)**, St. Xavier's High School, Panchkula, Haryana, India | Secured **92.4%**, Completed: 2021

Technical Skills

- Languages: Python, Java, C++, SQL
- Frameworks & Tools: Machine Learning, TensorFlow (familiar), Mistral 7B, NumPy, Pandas, Flask, Git
- Technologies: AI APIs (Gemini, Stable Diffusion), Web Dev (HTML/CSS), Pygame, Cloud Tech
- Domains: Scalable Systems, Real-Time Processing, Distributed Systems
- Concepts: Machine Learning, Neural Networks, Data Structures, Algorithms, Cloud Computing, Unix/Linux (via Operating Systems), NLP
- Soft Skills:** Team Collaboration, Problem-Solving, Effective Communication, Adaptability, Critical Thinking, Leadership, Initiative
- Language Proficiency:** Hindi (Native), English (Fluent), Punjabi (Beginner), Japanese (Beginner, self-study via Duolingo)

Projects

ShastraEye: AI-Powered Surveillance System | Python, Machine Learning | Jan 2025 – Mar 2025

- Developed an AI-driven surveillance system for Project Exhibition 2, delivering real-time technical solutions for threat detection (e.g., violence, weapons), reducing false positives by 20% with advanced filtering.
- Implemented video feed analysis and automated alerts, enhancing security response efficiency for 500+ simulated events.

Conversational AI System (Samantha AI) | Python, LLMs, Flask | Mar 2025 – Present

- Engineered a scalable conversational AI with speech recognition, TTS, and Mistral 7B, featuring machine learning-based mood tracking, empathetic responses, and personalized jokes/quotes via APIs.
- Integrated distributed systems for Google API email/calendar management and app launching (e.g., Browser, VS Code) on achieving 85% accuracy in sentiment analysis.

AI-Powered 2D Game Generator | Python, Machine Learning, Pygame | Jan 2025 – May 2025

- Designed a personal software engineering project using Stable Diffusion to generate 2D game levels, optimizing programming skills to reduce generation time by 25%.
- Explored creative applications of machine learning in game development, enhancing technical depth in scalable systems.

Future Forge: Educational Guidance Platform | Python, Gemini API, MySQL | Sep 2024 – Dec 2024

- Built a scalable software application for personalized academic advice, optimizing system design to improve query response time by 30% and achieving 95% accuracy in 300+ simulated queries.
- Led team collaboration on back-end integration for a 5-member team, ensuring scalability with HTML/CSS frontend.

Experience

VITian Formula Racing, Aerodynamics Department | Head of Department | Jan 2025 – Present

- Leading an expanding 12-member team in aerodynamic simulations using ANSYS Fluent, developing technical solutions for vehicle designs targeting FSAE Supra India 2026.
- Coordinated distributed systems with CFD and CAD (SolidWorks) workflows, improving design efficiency by 15% through sustainable materials.

Certifications

- IBM AI Engineering Professional Certificate, Coursera (In Progress, Expected 2025)
- NPTEL Cloud Computing Course, NPTEL (In Progress, Expected May 2025)
- Certificate in Fundamentals of AI/ML, VIT Bhopal University, April 2024
- Certificate in Python, VIT Bhopal University, 2024

Extracurricular Activities

- Entrepreneurship Cell (E-Cell), VIT Bhopal (2024 – Present)**
- Organized E-Summit 25, coordinating 5 workshops, improving team collaboration
- Google Olympics, VIT Bhopal (Feb 2025)**
- Won 3rd place in coding competition.
- Gen AI Exchange Program by Google | Participant (March 2025 – Present)**
- Collaborating in Google's 6-week program, developing innovative solutions for social impact, enhancing team collaboration.
- PromptX Hackathon, CSI Student Chapter, VIT Bhopal | Participant | March 2025**
- Competed in an online hackathon, earning a certificate for developing a solution, demonstrating rapid problem-solving and technical depth.
- NSS, VIT Bhopal**
- Tree Plantation, Aug 2024: Supported sustainability.
- Blood Donation, Dec 2024: Aided community health.
- Workshops**
- Robotics, Robonauts India, Sep 2023: Gained robotics skills.
- Edgetronix, Vitronix Club, Oct 2023: Explored tech trends.