

# ANKIT KUMAR SINGH

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## EDUCATION

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- **Integrated Masters (BTech + MTech) of Technology in Computer Science and Engineering with Specialization in Artificial Intelligence and Machine Learning** (2021 - 2026)  
Cumulative GPA - **8.2**, VIT Bhopal University, Bhopal, M.P.
- **XIIth**, Percentage - **76.2**, Sunbeam School, Mughalsarai, U.P. (2019 - 2020)
- **Xth**, Percentage - **80.4**, Laxmi Public School, Mughalsarai, U.P. (2017 - 2018)

## SKILLS

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- **Programming:** Python, Java, Git, HTML, CSS, SQL
- **Libraries and Frameworks:** NumPy, Pandas, Matplotlib, Scikit-learn, PyTorch
- **Tools and Platforms:** Jupyter Notebooks, VS Code, MS Office

## EXPERIENCE

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### Full-Stack Developer (MERN) — Externship SmartInternz (Feb, 2025 - Apr, 2025)

- Completed a 10-week MERN stack externship with an overall score of **87.05%**, mastering HTML5, CSS3, JavaScript ES6, React.js, Node.js, Express.js, and MongoDB through 15+ structured assignments.
- Developed **StockSense**, a full-stack stock trading platform with JWT authentication, RESTful APIs, MongoDB, Redux, and real-time data visualization.
- Practiced Agile workflows and Git/GitHub version control, optimized backend performance, and deployed the application to Vercel for production.

## PROJECTS

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### AI-Driven Optimization of 5G Resource Allocation

*Tech Stack: Python, Scikit-learn, Pandas, NumPy, HTML, CSS, Flask*

- Built ML model predicting resource allocation, achieving 87.46% accuracy for network efficiency.
- Deployed prediction model using Flask for real-time automated resource management.
- Improved network performance by dynamically optimizing resources, adapting to diverse user demands.
- Automated data preprocessing pipeline, reducing training time and ensuring robust, reliable feature engineering.

### Nova-AI Assistant

*Tech Stack: Python, Groq API, Langchain, gTTS*

- Architected AI voice assistant MVP leveraging Groq API, LangChain, and Google GenAI frameworks.
- Engineered real-time speech pipelines with PyAudio, SpeechRecognition, pygame for seamless interactions.
- Integrated multimodal capabilities using OpenCV webcam capture with Groq's vision-enabled processing.
- Deployed production-ready Gradio interface with gTTS/ElevenLabs synthesis and environment management.

### Mental Health Illness Predictor

*Tech Stack: Python, Flask, NumPy, HTML, CSS*

- Built machine learning model achieving 89% precision predicting mental health treatment needs.
- Implemented advanced data preprocessing techniques enhancing predictive analytics for healthcare applications.
- Engineered critical features from unstructured data improving model performance by 35%.
- Developed scalable healthcare analytics solution addressing critical mental wellness identification challenges.

## CERTIFICATIONS

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- Applied Machine Learning in Python – Coursera

## CO-CURRICULAR ACHIEVEMENTS

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- Organized and led workshops, seminars, and coding events with the Data Science Club, significantly boosting AI/ML community engagement and fostering peer collaboration.
- Led school football team to win the first-ever Cluster medal, captaining strategy and practice sessions.
- Interests: Singing, Playing Football.