NISHANT RAJ

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CAREER SUMMARY

I am a passionate and responsible postgraduate student in Artificial Intelligence with a strong foundation in AI, Machine Learning, Deep Learning, Python programming, and Data Structures & Algorithms. I have hands-on experience in full-stack web development using PHP, HTML, CSS, JavaScript, and Bootstrap, along with backend development and database management using MySQL and phpMyAdmin. Throughout my academic journey, I have developed secure web applications, worked on Big Data projects, and completed an internship at CSIR-CEERI, where I contributed to real-world AI/ML/DL projects within a government research environment. I enjoy solving complex problems through intelligent systems and am always eager to learn and apply new technologies. I am currently seeking a full-time opportunity in AI/ML or Software Development where I can contribute to impactful projects and grow as a tech professional.

SKILLS AND STRENGTHS

- **Programming Skills:** Proficient in Python, with experience in PHP for backend logic
- **Artificial Intelligence & Machine Learning:** Strong understanding of AI, Machine Learning, and Deep Learning concepts; experience with model building, training, and evaluation using libraries like NumPy, Pandas, Scikit-learn, and introductory TensorFlow/Keras
- **Robotics & Autonomy:** ROS (Robot Operating System), ROS 2, PX4 Autopilot, MAVROS, Gazebo Simulation, QGroundControl
- **Big Data & Databases:** Experience working with MySQL and Hadoop for data storage and processing in large-scale systems
- **Web Development (Supporting AI deployment):** Skilled in HTML, CSS, JavaScript, and Bootstrap for front-end UI, and PHP for back-end development useful for deploying AI models in web-based applications
- **Android Development:** Basic app development skills using Firebase and Android Studio
- **Version Control & Tools:** Familiar with Git, Jupyter Notebook, Visual Studio Code (VS Code) for development and experimentation
- **Soft Skills:** Quick learner, detail-oriented, strong analytical mindset, team collaborator, and highly adaptable to new technologies

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PROJECTS

- **Web Development – Software Freedom Day Website:**
  Developed a fully functional and responsive website to promote and support Software Freedom Day. Implemented front-end design using HTML, CSS, and Bootstrap, with backend logic using PHP.
  GitHub URL: [Software Freedom Day](#).
- **Big Data Project – Hadoop-Based Data Processing**
  Worked on a project involving large-scale data processing using Hadoop. Focused on

distributed storage (HDFS) and computation (MapReduce) to handle and analyse big data efficiently.

- **Android Development – College Syllabus App**
  Designed and implemented a mobile app that displays the college syllabus for students. Integrated Firebase for user authentication (login and signup) and cloud data storage.
- **PHP Project – Login and Signup Page with Email Verification**
  Built a secure, user-friendly login and registration system using PHP for backend, HTML/CSS/JS for frontend, and PHPMailer for email-based OTP verification. Managed user data with MySQL via phpMyAdmin**.**
  GitHub URL: [Login and Signup Page](#).
- **Python Project – Audio to Text Converter & Assignment**
  Developed a Python GUI application using Tkinter and speech recognition libraries to convert .mp3, .wav, and .flac audio files into text with 95% accuracy.
  GitHub URL: [Python](#) .

Internship – CSIR-CEERI (Govt. Research Institute)

Role: AI/ML Intern | **Duration:** Final Semester (JAN- JUNE 2025)

- **Project 1:** *Path Planning for Low-Altitude UAVs in Orchard Environments*
  Developed a monocular vision-based navigation system using YOLOv11s (TensorRT optimized) for real-time treeline detection. Applied Kalman filtering, Soft-NMS, and curve fitting for smooth path planning. Designed UAV control logic for stable flight under wind and occlusion.
- **Project 2:** *Multi-Drone Formation Control in Simulation (Gazebo + PX4 + ROS 2)*
  Implemented real-time drone formation (circle, triangle, square) using custom Python scripts with PX4, ROS 2, and MAVROS. Integrated ORCA for inter-drone collision avoidance and managed mission flow via QGroundControl.

EDUCATION

- **M.Sc. Artificial Intelligence**
  Central University of South Bihar, Gaya, Bihar (2023–2025)
- **B.Sc. Information Technology (71%)**
  Kisan College, Nalanda, Bihar (2020–2023)
- **Class 11th & 12th (75%)**
  K.S. T College, Nalanda, Bihar (2018–2020)
- **Class 10th (60%)**
  Manas Bhumi Sr. Sec. School, Nalanda, Bihar (2017–2018)

COURSEWORK

- Artificial Intelligence
- Machine Learning
- Artificial Neural Networks & Deep Learning

- Python Programming
- Data Structures & Algorithms
- Social Network Analytics
- Database Management System
- Big Data Analysis
- Wireless Sensor Network
- Software Engineering
- Research Methodology
- Human Value and Professional Ethics
- Research Operation
- Soft Computing

STRENGTHS

- Creativity and Innovation
- Problem-Solving and Critical Thinking
- Analytical Skills
- Project Management
- Adaptability and Flexibility
- Team Collaboration and Leadership
- Time Management
- Good Communication Skills
- Attention to Detail