

Vineet Vora

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SUMMARY

Software Engineer and Master's student in Artificial Intelligence with hands-on experience in machine learning, distributed systems, and full-stack development. Proven ability to design scalable ML pipelines, optimize large-scale data processing systems, and deliver high-performance solutions using Python and Java. Seeking Software Engineer / Machine Learning Engineer roles.

TECHNICAL SKILLS

- **Languages:** Python, Java, JavaScript (ES6+), SQL, HTML5, CSS3
- **Backend & Frameworks:** Node.js, React.js
- **Machine Learning:** PyTorch, TensorFlow, Scikit-learn, OpenCV, NumPy, Pandas
- **Big Data & Cloud:** Hadoop, MapReduce, HDFS, YARN, AWS EC2
- **Databases:** MySQL, PostgreSQL, MongoDB
- **Tools & Practices:** Git, Docker, CI/CD, Agile, TDD

PROJECTS

1. IMF Bz Forecasting using Surya Foundation Model

Dec 2025 – Present

github.com/VineetV2/imf-bz-forecasting-surya

Python, PyTorch, CUDA, Weights & Biases

- Built a machine learning pipeline to forecast Interplanetary Magnetic Field (IMF) Bz values at T+24h, T+48h, and T+72h for geomagnetic storm prediction.
- Applied transfer learning using Surya, a 366M-parameter Vision Transformer pretrained on NASA SDO imagery.
- Adapted the model to process 13-channel AIA EUV and HMI magnetograms (512×512).
- Implemented parameter-efficient fine-tuning using LoRA and frozen encoder strategies.
- Designed Leave-One-Flare-Out cross-validation across 57 major solar flare events.
- Achieved 3.39 nT RMSE with 96.5% forecasts rated Excellent/Good, with 3.5× efficiency gains.

2. Hadoop MapReduce Flight Data Analysis

Nov 2025 – Dec 2025

github.com/VineetV2/hadoop-flight-data-analysis

Java, Hadoop, AWS EC2

- Developed a distributed analytics system using Hadoop MapReduce to process 118.9 million flight records (11.66 GB).
- Deployed and configured a 6-node Hadoop cluster on AWS EC2 with 100% data-local map execution.
- Implemented custom MapReduce jobs for on-time performance and distance analysis.
- Achieved 2.73× speedup through horizontal scaling and demonstrated sub-linear scaling efficiency.

3. EV Range Prediction using Machine Learning

Feb 2025

github.com/VineetV2/ev-range-prediction

Python, Scikit-learn, TensorFlow

- Developed a regression-based ML model to predict electric vehicle battery consumption and driving range.
- Modeled real-world parameters including speed, terrain, temperature, and vehicle load.
- Improved route planning accuracy and reduced range anxiety for EV users.

4. Attendance Marking System using Face Detection

github.com/VineetV2/Face-Based-Attendance-Automation

Python, OpenCV, YOLO, FaceNet

- Built an automated attendance system using real-time face detection and recognition.
- Integrated YOLO for face detection and FaceNet for identity recognition.
- Generated automated Excel-based attendance reports and designed the system for scalable deployment.

EXPERIENCE

- **Xena Technologies Pvt. Ltd.** Oct 2023 – Dec 2023
Software Programmer Ranchi, India
 - Contributed across the SDLC by developing, testing, and debugging maintainable production code.
 - Improved application stability through unit testing and QA defect resolution.
 - Collaborated with senior engineers to analyze legacy codebases and implement scalable enhancements.
 - Used Git and Agile/Scrum practices for version control and sprint execution.
- **Ethnus** Aug 2023 – Nov 2023
Full-Stack Developer (Remote)
 - Designed and developed a full-stack real estate web application with frontend-backend integration.
 - Built responsive UI components and backend services for managing property listings and users.
 - Improved performance using caching, compression, and asset optimization techniques.
 - Maintained technical documentation and enforced code quality using Git.

EDUCATION

- **New Jersey Institute of Technology** Expected Jun 2027
Master of Science in Artificial Intelligence Newark, NJ
- **Vellore Institute of Technology – AP** Jun 2025
Bachelor of Technology in Computer Science India

CERTIFICATIONS

- Enterprise Design Thinking Practitioner — IBM