Vansh Savani

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SUMMARY

Results-driven AI/ML Engineer with strong experience in designing, developing, and deploying production-grade machine learning systems. Proficient in Python, TensorFlow, PyTorch, AWS, and full ML pipeline development. Skilled in natural language processing (NLP), time series forecasting, model explainability, and MLOps. Proven success applying data science solutions across gaming, healthcare, and mobility domains. Seeking to contribute to high-impact projects that demand innovation, scalability, and cross-functional collaboration.

EDUCATION

Lawrence Technological University | Southfield, MI — **GPA**: 3.62/4.00
Master of Science, Computer Science — **Aug 2023 - May 2025**

Udhana Citizen College | Surat, India — **CGPA**: 6.65/10.00
Bachelor of Computer Application — **Jun 2019 - Apr 2022**

TECHNICAL SKILLS

- **Languages:** Python, C++, SQL, Java, Shell Scripting, JavaScript, HTML, CSS, PHP
- **Libraries & Frameworks:** PyTorch, TensorFlow, XGBoost, scikit-learn, Hugging Face, LightGBM
- **Data & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, NLTK, Power BI
- **Cloud & DevOps:** AWS (Lambda, EC2), Docker, Git, GitHub Actions, Linux
- **Specialties:** NLP, Time Series Forecasting, Predictive Maintenance, Model Explainability, MLOps, Reinforcement Learning
- **Other Skills:** Cross-functional collaboration, Stakeholder communication, Project Management, Documentation
- **Other:** Documentation (Markdown, Sphinx), Project Management, Cross-functional Communication

EXPERIENCE

Software Engineer | *Community Dreams Foundation - Sebring, Florida* — **Jun 2025 - Present**

- Developed software solutions in Java, Ruby on Rails, and .NET languages including C++ and JScript.NET as part of a nonprofit tech team.
- Followed full Software Development Life Cycle (SDLC) to design, document, code, test, and deploy new systems.
- Created detailed functional specifications, flowcharts, and integration logic for new features.
- Managed code deployments, feature upgrades, and user testing in a remote Agile environment.
- Collaborated with leadership and stakeholders to gather technical requirements and ensure user satisfaction.

AI/ML Intern | *Maxima Gaming Studio - Surat, India* — **Apr 2022 - Jan 2023**

- Engineered and deployed transformer-based models using Hugging Face and TensorFlow to analyze in-game user behavior.
- Built automated preprocessing pipelines for behavioral and text data, reducing manual workload by 25%.
- Designed A/B testing dashboards using Power BI to support product decisions across user segments.
- Converted trained models to ONNX format and integrated with Unity to support real-time adaptive gameplay.
- Managed CI/CD using GitHub Actions for versioning, testing, and seamless model deployment.

PROJECTS

Tendermint Blockchain Consensus Simulation | *Lawrence Technological University* — **Jan 2025 - Apr 2025**

- Designed and implemented a modular Proof-of-Stake blockchain simulation using the Tendermint consensus algorithm to explore fault tolerance in distributed systems.
- Built a Dockerized network with rotating validator nodes and asynchronous peer communication, allowing comprehensive simulation of consensus phases.
- Conducted stress-testing by injecting faults and measuring real-world metrics like block finality, latency, and throughput under adversarial conditions.
- Assessed the broader relevance of Tendermint's BFT consensus for AI coordination problems, especially in federated or decentralized learning systems.

Deep Learning for Alzheimer's Disease Detection | *Lawrence Technological University* — **Aug 2024 - Dec 2024**

- Developed a hybrid LSTM-attention model in PyTorch to classify Alzheimer's disease stages from MRI time series data, achieving improved diagnostic reliability.
- Incorporated multimodal inputs-clinical test scores (MMSE, ADL) and neuroimaging features-to enhance the model's contextual understanding of disease progression.
- Applied explainability methods such as saliency maps and SHAP values to highlight model decision regions, fostering transparency for medical practitioners.
- Automated the full experimentation pipeline using reproducible PyTorch workflows, facilitating rapid tuning, validation, and iteration cycles.

Urban Mobility Prediction with AI | *Lawrence Technological University* — **Jan 2024 - Apr 2024**

- Using extensive time-series data, an end-to-end predictive analytics solution was developed utilizing XGBoost to predict urban congestion patterns.
- Engineered robust ETL pipelines to fetch and process real-time mobility data via city traffic APIs, ensuring data freshness and consistency.
- Deployed statistical anomaly detection techniques to flag irregular traffic behavior, informing both city planning and emergency response strategies.
- Simulated a low-latency cloud deployment using AWS Lambda and EC2 to support real-time prediction services and dashboard integration.

AniMax | *Udhana Citizen College* — **Nov 2021 - Apr 2022**

- Designed and developed a Netflix-style streaming prototype using HTML, CSS, and JavaScript for the front-end, with PHP and Laravel powering the back-end logic.
- Implemented a secure user login and role management system to support personalized access to dynamic video content.
- Integrated AJAX-based partial content rendering to minimize reload times, achieving a significant boost in performance and user experience.
- Simulated an AWS deployment architecture for low-latency model serving.

CERTIFICATION

- **Robofest Volunteer Judge,** Lawrence Technological University — **May 2025**
- **Diploma in Advance Web Design,** Jan Jagruti Saksharta Abhiyan — **Mar 2021 - Mar 2022**
- **Diploma in C, C++ & JAVA,** Red & White multimedia education — **Mar 2019 - Sep 2019**