Harsha Venkateshwara

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EDUCATION

University at Buffalo　　　　　　　　　　　　　　　　　　　　　　　　　　**Aug 2025 – Jan 2027**
Master of Science in Computer Science and Engineering (Artificial Intelligence & Machine Learning)　　　*Buffalo, New York*

Visvesvaraya Technological University　　　　　　　　　　　　　　　　**Jun 2018 – Jul 2022**
Bachelor of Engineering in Mechanical Engineering

WORK EXPERIENCE

Itron, Inc.　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Aug 2023 – Aug 2025**
Technical Associate

- Co-led multiple utility operations analytics and predictive modeling initiatives on large-scale operational data (70M+ records), delivering system-level supervision tools including forecasting models, risk classification, and standardized feature-ready datasets to support repeatable analytics workflows.
- Built and evaluated regression and classification models improving forecasting accuracy by 18% through structured feature engineering, validation, and tuning.
- Performed EDA and data-quality/risk diagnostics to uncover operational risk patterns and reduce noise, cutting false positives by 30% and improving reliability of model-driven decisions for engineering and operations.
- Documented model performance with statistical metrics and communicated insights to cross-functional stakeholders in clear, decision-focused summaries and walkthroughs, enabling faster and more confident operational actions.

Kyono Software Pvt. Ltd.　　　　　　　　　　　　　　　　　　　　　　**Jun 2022 – Jul 2023**
Machine Learning Engineer (Research & Systems)

- Built scalable e-commerce data pipelines to process clickstream transaction events into feature ready tables, cutting data prep and refresh time by 60% and enabling daily KPI model updates.
- Developed customer intent, conversion prediction models with feature engineering and rigorous evaluation, improving AUC by 0.12 and increasing marketing targeting precision, reducing wasted outreach by 20%.
- Delivered funnel analytics and experimentation insights, identifying key drop offs and optimization levers that improved checkout conversion by 8% and increased AOV by 5%..

Bharat Electronics Limited　　　　　　　　　　　　　　　　　　　　　**Sep 2021 – Oct 2021**
Data Science Intern – Air Force Defense Unit

- Developed predictive maintenance models with Python and Pandas, improving fault detection accuracy by 15%.
- Composed technical reports and delivered findings to engineering and defense teams, improving adoption of data solutions.

PROJECTS

Electric Smart Grid Stabilizer with Deep Learning – Itron, Inc. hackathon　　　**github.com/harsha-venkateshwara/smart-grid**

- Built an end-to-end machine learning pipeline on large-scale power system telemetry (generation, consumption, reaction times), performing data normalization, feature engineering, and label construction to predict grid stability outcomes.
- Evaluated deep learning and baseline ML models for stability classification, analyzing performance and sensitivity to system parameters; identified instability drivers supporting operational risk mitigation and earning the Itron SPOT Award for business impact.

Identification of Cancer-Specific Genetic Signatures　　　　　　　　　　**github.com/harsha-venkateshwara/cancer-gene**

- Analyzed high-dimensional gene expression data (20K+ genes, 5 cancer types) through scaling, feature construction, and supervised multi-class classification.
- Applied PCA, LDA, KMeans, and benchmarked classical ML models and a deep MLP to study class separability and validate predictive performance.

SKILLS

- **Programming & Data:** Python, C++, NumPy, Pandas, Scikit-Learn, OpenCV, Linux, Git
- **Frameworks:** PyTorch, JAX/Flax, TensorFlow, Ray, DeepSpeed, FSDP, Hugging Face, vLLM, TensorRT, Orbax, Grain
- **GPU & Systems:** CUDA C/C++, Triton, NCCL, MPI, XLA, Nsight Systems/Compute, Kernel Fusion, Memory Optimization
- **Cloud & Infra:** AWS, GCP, Azure, Docker, Kubernetes, CI/CD, Slurm, Ray Cluster, TensorBoard
- **Engineering & Development:** Object-Oriented Design, Data Structures & Algorithms, Distributed Systems, Data Engineering (ETL), MLOps, Cloud-Native Architecture, Agile Methodologies