

# Kaivalya Kishor Dixit

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## EDUCATION

<b>New Jersey Institute of Technology</b> <i>M.S. Data Science</i>	May 2025 GPA: 4.0/4.0
<b>Mahindra Ecole Centrale</b> <i>B.Tech Electrical and Electronics Engineering</i>	Jun 2023 GPA: 3.54/4.0

### RELEVANT COURSEWORK

**Courses:** Machine Learning, Deep Learning, Time Series Analysis, Reinforcement Learning, Applied Statistics, Big Data, Parallel Computing, Database Systems

## SKILLS

**Languages:** Python, Java, JavaScript, C, HTML/CSS, Shell Scripting, Assembly,  $\LaTeX$   
**Frameworks and Tools:** React, Node.js, Flask, Streamlit, Docker, Apptainer, Git/GitHub, AWS, Postman, Unix Shell, VS Code, IntelliJ, Vim, bash, zsh, Linux  
**Data and Systems:** SQL, Tableau, Apache Spark, Hadoop, Pandas, MapReduce, Hive, MongoDB  
**Technical:** Pytorch, Tensorflow, NumPy, Matplotlib, ScikitLearn, LangChain, OpenGym, OpenMP, MPI, Plotly, Seaborn, XGBoost, Llama Index  
**Soft skills:** Data Storytelling & Visualization, Problem-Solving, Critical Thinking, Technical Communication

## PROJECTS

<b>Hyperion, HPC testbed with rPIs</b>   <i>RockyLinux, SLURM, Warewulf</i>	Nov 2024 – Jan 2025
<ul style="list-style-type: none"><li>Built a scalable Raspberry Pi-based HPC testbed to prototype cluster deployments and configurations</li><li>Integrated SLURM to enable distributed task execution across 4 ARM64 nodes</li><li>Achieved 100% provisioning reliability by debugging netboot failures across 50+ test iterations</li><li>Reduced node deployment time using Warewulf and NFS automation</li></ul>	
<b>Reinforcement Learning-Based Autonomous Vacuum Cleaner</b>   <i>Python, NumPy, matplotlib, Gymnasium</i>	Mar 2025 – May 2025
<ul style="list-style-type: none"><li>Developed a robot agent trained using SAC, PPO, and DDPG in a progressively complex simulation environment</li><li>Built custom environments with modular reward structures to support scalable policy learning</li><li>Designed a simulation pipeline from simple layouts to vision-based dynamic obstacle scenarios</li></ul>	
<b>High-Performance Distributed Machine Learning Framework</b>   <i>OpenMP, CUDA, C++, pybind</i>	Mar 2025 – May 2025
<ul style="list-style-type: none"><li>Built a distributed deep learning framework optimized for HPC using CPU-GPU parallelism</li><li>Implemented multi-process training pipeline with gradient synchronization</li><li>Benchmarked on MNIST to evaluate speedup and communication overhead</li><li>Achieved 26.6x data loading speedup and 5.2x training speedup</li></ul>	

## EXPERIENCE

<b>High Performance Computing</b>   <i>HPC User Support Specialist, Student Intern</i>	Sep 2024 – Present
<ul style="list-style-type: none"><li>Support 400+ researchers with GPU/CPU performance tuning, containerization, and environment troubleshooting</li><li>Developed an automated benchmark suite for node health using Slurm, Bash, and Python</li><li>Provisioned 6 NVIDIA Grace Hopper nodes with InfiniBand, managing hardware setup and driver configurations</li></ul>	
<b>Dassault Systems</b>   <i>Data Analyst Intern</i>	Jan. 2023 – Jul 2023
<ul style="list-style-type: none"><li>Engineered Java-based ETL pipeline for Conversion Admin Service, processing enterprise-scale customer lifecycle data</li><li>Designed interactive dashboard for license conversion tracking using internal visualization frameworks</li><li>Automated data quality checks streams using SQL window functions and constraint validation</li></ul>	

## CERTIFICATIONS

- AWS Certified Machine Learning Engineer – Associate (MLA-C01)
- NVIDIA DLI – Building RAG Agents with LLMs