HARIPRIYA DHANASEKARAN

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SUMMARY

- Graduate student in Computer Science with interest in AI/ML, hands-on experience in Machine learning algorithms, optimization techniques, explainability, Computer Vision, and Parallel Programming. Proficient in Python, PyTorch and Java. Research experience in spatio-temporal analysis and modeling.

Education

University Of Washington — Bothell, WA
Master of Science in Computer Science and Software Engineering, (Thesis) ***GPA: 3.68*** — *Expected Aug 2025*

Anna University — Chennai, India
Bachelor of Engineering in Computer Science and Engineering, ***GPA: 3.65*** — *July 2019 – May 2023*

Experience

Graduate ML Researcher, Intelligent Networks Lab — Jan 2024 – Present
University Of Washington — *Bothell, WA*
- Modelled end-to-end ML pipeline to understand localized patterns in Neural development using PyTorch and Explainability.
- Integrated distributed training using multiple GPUs, reducing training time by 35% and achieved accuracy of 72%.

Machine Learning Engineer Intern — Sep. 2021 – Mar. 2022
Renault Nissan Technology and Business Centre — *Chennai, India*
- Optimized power consumption and engine efficiency, using raw sensor data and Machine Learning models like Decision Trees and Random Forest.
- Improved system efficiency by 25% through model fine-tuning, achieving an AUC of 0.95.

Web Development Engineer Intern — Aug. 2021 – Sep.2022
Loyola ICAM College Of Engineering and Technology — *Chennai, India*
- Collaborated on an enterprise software Student Portal for 5000+ users using React.js, Node.js, Express.js and SQL.
- Enhanced SQL schemas for efficient data storage and improved retrieval efficiency for 10,000+ records.

Research Publications

MRI-Super Resolution Using Generative Adversarial Network and Discrete Wavelet Transform: [**Paper**]
Balasubramanian, Ashwin and ***Dhanasekaran, Haripriya*** *and Raghu, Booma and Kumarasamy, Kunaraj* **[IEEE'22]**

Applications of Artificial Intelligence in Manufacturing: Review: [**Paper**]
Akash Balaji, Shreyas S, ***Haripriya Dhanasekaran*** **[IJTRET'23]**

Projects

Neural Graph Analysis using Advanced Deep Learning | *Pytorch Geometric, Distributed Training* — Sep 2024 – Present
- Trained a GNN sub-graph classifier to detect network burst activity, achieving 80% accuracy.
- Utilized PyTorch Geometric for efficient training uaing 1TB+ of neural spike train data.

Parallelized Simulated Annealing based Travelling Salesman Problem | *MPI,Map Reduce,Spark* — Sep 2023 – Dec 2023
- Developed a distributed Simulated Annealing algorithm, improving computational efficiency by 50% using Spark.

Vulnerability Detection in Software Code using Deep Neural Network | *Python,CNN,React.js* — Jan 2023 – Aug 2023
- Built a vulnerability detection system using Convolutional Neural Networks (CNN), improving accuracy from 74% to 95% to identify 10+ vulnerability classes in source code.
- Integrated the model into an web product enabling real-time analysis for 1000+ users.

Automated Laboratory Test Analysis using Image Processing | *Python, Deep Learning* — Jan 2022 – Aug 2022
- Developed a Lab Test analysis portal for anomaly detection in MRI and Glaucoma Scans, realizing 25% increase in diagnostic accuracy.

Volunteer

Teaching Assistant, Computer Science and Systems — Jan 2024 – Present
University Of Washington — *Bothell, WA*
- Supervised 160+ students in JAVA Programming and Data Structures, provided mentorship.