HRIDAY RAJ

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PROFESSIONAL SUMMARY

Graduate student in Computer Science with strong foundations in AI/ML, data science, and analytics engineering. Experienced in building NLP pipelines, developing self-service analytics tools, and delivering scalable, data-driven solutions. Skilled in Python, SQL, PySpark, TensorFlow, and Databricks, with a focus on actionable insights, model deployment, and cross-functional collaboration.

TECHNOLOGY STACK

Programming: Python | SQL, R(Tidyverse), C, React Native |
Data Visualization: Matplotlib, Seaborn, Tableau, Powerbi
Deep Learning: Spark, PyTorch, TensorFlow 2.x, Keras |
Tools: Git, Docker, Jira, Confluence, Powerpoint, Excel |
Databases: Databricks

WORK EXPERIENCE

Data Scientist Intern | Hewlett-Packard Incorporated | May 2025 - August 2025

- Built a proof-of-concept with an **AI-driven self-service analytics tool** using HP Smart App CSAT survey data, enabling non-technical users to identify sentiment trends and **generate insights autonomously**.
- Conducted stakeholder interviews with product managers to model key analytical pain points, shaping tool requirements around usability, explainability, and root-cause diagnostics.
- Evaluated and prototyped solutions with **ThoughtSpot Spotter** and **Databricks Genie** to enable **natural language querying**, automated pattern detection, and scalable insight generation.
- **Engineered data pipelines** for structured and unstructured feedback, including pre-processing, sentiment modeling, and keyword extraction to support real-time analytics workflows
- Improved analyst team productivity by 10% by replacing 25% of ad-hoc data requests with AI-driven self-service analytics, enabling business users to **independently explore key product** and experience insights.

Football Analytics Intern | Willamette University | May 2024 – August 2025

- Spearheaded defensive strategy analysis using HUDL, collaborating with coaches to align performance metrics with team objectives and effectively communicate actionable strategies to players.
- Translated stakeholder requirements into actionable data visualizations by conducting iterative feedback sessions to align metrics with strategic goals.
- Designed and developed user-friendly visualizations of key performance metrics (e.g., pass pressures, coverages) on a web-based platform to support data-driven decision-making and enhance defensive tactics.
- Built and standardized a data pipeline to streamline metric analysis, improve data accuracy, and support ongoing strategy development.
- Managed team workflows and resources efficiently, resolving roadblocks and ensuring seamless collaboration to achieve strategic objectives.

Hardware analysis Student Researcher | Willamette University | May 2025 – December 2025

- Co-authored an academic paper on "vcd2df"; architected and implemented a memory-efficient PySpark parser to convert VCD hardware simulation logs into distributed DataFrames.
- Enabled larger-scale hardware performance analysis by creating a scalable data transformation tool for research applications.

Statistics Teacher's Assistant | Willamette University | May 2024 -Present

- Graded assignments , providing detailed, constructive feedback to support student learning and comprehension.
- Held regular office hours to provide one-on-one and small-group support, clarifying topics such as hypothesis testing, regression analysis, and probability.
- Assisted the professor with course material preparation and lab setup and exectution, ensuring a smooth and effective classroom operation.

Quantitative Understanding, Analysis, and Design Tutor | Willamette University | May 2024 - May 2025

- Provided academic support to undergraduate students, simplifying complex concepts in **statistics, computer science, and data science.**

- Empowered students to develop problem-solving strategies and critical thinking skills, contributing to improved academic performance and confidence.

AI/ML Intern | Bahwan Cybertek | Jun 2023 - Aug 2023

- Lowered operating costs by creating a custom keyword extractor in python using natural language processing techniques for feedback management systems.
- Validated research with Fscores and optimized the keyword extraction algorithm for enhanced accuracy and performance.
- Documented research findings, methodologies, and recommendations to facilitate knowledge sharing and future improvements.

Key Projects

Reccomendar Systems

- Built diverse recommender systems using advanced algorithms such as the Apriori algorithm, Graph Neural Networks (GNN), and Singular Value Decomposition (SVD) to enhance user experience and deliver personalized content.
- Implemented the Apriori algorithm to identify frequent itemsets and generate association rules, optimizing marketing strategies and inventory management.Utilized Graph Neural Networks (GNN) to leverage relational data for more accurate recommendations, improving user engagement through personalized suggestions.
- Applied Singular Value Decomposition (SVD) to decompose large user-item interaction matrices, significantly reducing dimensionality while preserving essential data features.

EDUCATION

Willamette University Aug 2024 - Dec 2025
M.S. Computer Science

Willamette University Aug 2022 - May 2025
B.S. Computer Science and B.S Data Science
Activities: Statistics Teacher's Assistant, Peer Tutor, NCAA Division III Football Captain