Aayush Panchal

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EDUCATION

The Ohio State University — Columbus, Ohio
Master of Science in Statistics — *August 2024 - May 2026*
Relevant Courses: Machine Learning, Multivariate Analysis, Statistical Theory, Applied Statistics, Computational Statistics, Discrete Data Analysis, Statistical Consulting

University of Massachusetts — Amherst, Massachusetts
Bachelor of Science in Computer Science and Mathematics — *August 2019 - January 2023*

PROFESSIONAL EXPERIENCE

Data Science Intern, Ohio Health, Columbus, OH — *June 2025 - August 2025*

- Engineered an in-house generative-AI sentiment pipeline in Databricks leveraging Llama-70b and wav2vec2 models, reducing vendor dependence and saving $31K in annual operational costs
- Developed a clinical NLP validation system using Claude 3.5 to analyze unstructured radiology notes from Epic, creating a scoring algorithm that predicted patient follow-up needs with 93% accuracy
- Converted complex clinical narratives into interpretable scores, enabling prioritization of high-risk patients and reducing manual review time of clinical notes by 20%
- Optimized inference pipelines using batch processing, cutting compute costs by 20% while maintaining model performance

Data Engineer, Mollissoft, El Segundo, CA — *May 2023 - February 2024*

- Created Python scripts and SQL validation checks for ETL pipelines processing transaction and behavior data, reducing data ingestion errors by 10%
- Optimized SQL queries through indexing and partitioning strategies within data warehouse, reducing query latency by 15%
- Delivered promotional and pricing data into Delta tables, enabling the data analytics team to build dashboards, identify optimal discount strategies, increasing profit margins by 12%

Data Science Intern, WallFort Inc., Mumbai, India — *May 2022 - August 2022*

- Processed and validated high-dimensional financial records using Python for exploratory data analysis and engineering 5+ features for downstream modeling
- Evaluated regression models on customer behavior data using cross-validation, selecting optimal model that improved retention prediction by 15%
- Designed Power BI dashboards to track behavioral metrics, identifying key trends that drove $8,000 in revenue generation

PROJECTS

Handwritten Image Recognition, OSU, Columbus, OH — *November 2025 - December 2025*

- Developed a statistical framework for handwritten digit recognition, utilizing Principal Component Analysis (PCA) to compress 256-dimensional pixel data into essential feature vectors
- Optimized classification performance using Linear Discriminant Analysis (LDA), validating feature selection through scree plots and error rate minimization strategies to distinguish between digits

AI Based Product Recommendation Engine, OSU, Columbus, OH — *March 2025 - April 2025*

- Designed a recommendation system in Python leveraging PyTorch, to improve product-discovery analytics through collaborative filtering
- Performed customer segmentation using k-means clustering and behavioral analysis, improving recommendation click-through rate by 20% on test dataset

TECHNICAL SKILLS

Programming Languages: Python, SQL, R
Tools: GitHub, Git, Azure, Tableau, Power BI, Apache Spark, Excel, Databricks
Libraries: scikit-learn, seaborn, XGBoost, PyTorch, PySpark