Shaashvat Shetty

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Professional Summary

Quantitative-focused Computer Science and Statistics student with practical experience in building and validating machine learning models. Proficient in applying statistical methods and algorithmic thinking to optimize processes, with hands-on experience in software engineering and AI.

Education

University of Maryland, College Park — College Park, MD
BS in Computer Science (Honors) and Statistics — *Expected May 2027*

- GPA: 3.76
- Achievements: Dean's List, CS Honors, Carillon Communities
- Relevant Coursework: Advanced Data Structures, Algorithms, Data Science & Machine Learning, Computer Systems, Statistical Computing with SAS, Applied Probability & Statistics

Experience

Software Engineering Intern — *June 2024 – September 2024*
Juniper Networks, Sunnyvale, CA

- Developed a Python-based CLI command to instantly diagnose failures in complex EVPN-VXLAN topologies, automating a previously manual, expert-level troubleshooting process.
- Engineered the tool to support large-scale, multi-leaf topologies, ensuring its effectiveness in complex, real-world network environments.
- Authored detailed architectural documentation on the code's logic, enabling future engineers to easily maintain and extend its functionality.

Math Tutor — *June 2022 – June 2023*
Mathnasium, Scotts Valley, CA

- Tutored K–12 students in algebra, geometry, and calculus, enhancing comprehension and performance.
- Developed clear, concise instructional methods to communicate complex concepts.
- Cultivated leadership and mentoring skills through consistent one-on-one sessions.

Computer Vision Intern — *June 2022 – August 2022*
UCSC SIP, Santa Cruz, CA

- Developed an AI model for drone navigation using natural language commands.
- Implemented YOLOv3 for object detection to support navigation decisions.
- Utilized cosine similarity for object classification in NLP tasks.
- Enhanced operational efficiency by integrating semantic segmentation.

Technical Skills

Languages: Python, C++, C, Java, OCaml, Rust, R, SAS, Assembly, SQL
Developer Tools: Git, GitHub, VS Code, Eclipse, Sublime, Jupyter Notebook, JUnit
Libraries: NumPy, Pandas, Matplotlib, scikit-learn, YOLOv3, PyTorch, TensorFlow, Keras
Technologies: Data Center Technology, EVPN-VXLAN, BGP protocols

Projects

Analysis of Various Classification Methods on the Fashion MNIST Dataset | *May 2025*

- Evaluated seven distinct machine learning models, from traditional algorithms like SVM to a deep learning CNN, to determine the optimal algorithm for a comprehensive image classification analysis.
- Implemented a full model pipeline, applying Principal Component Analysis (PCA) for dimensionality reduction and 5-fold cross-validation to ensure model robustness and prevent overfitting.
- Engineered a Convolutional Neural Network (CNN) that achieved 91.05% accuracy, confirming its superior performance over traditional models through a detailed comparative analysis using confusion matrices.

Map-Matching Algorithm Analysis | *April 2025*

- Implemented four GPS map-matching algorithms and designed tests across distinct environments (dense urban and sparse rural) to assess performance under varying road complexities.
- Developed a synthetic GPS trajectory dataset with controlled noise to simulate real-world inaccuracies and enable a rigorous backtest against a known ground truth.
- Led the quantitative analysis of error statistics (mean, median, std. dev), concluding that the Hidden Markov Model (HMM) was significantly more accurate, with a mean error as low as 0.69m.