Hailey A. Reed

Milford, CT • +1 (475) 224 7376 • hailey.reed@uconn.edu
LinkedIn: linkedin.com/in/hailey-ann-reed • Portfolio: haileyannreed.github.io/portfolio

Education

University of Connecticut Storrs, CT
Bachelor of Science, Major in Computer Science, Minor in Mathematics • GPA: 3.6/4.0 2022-2026
• Concentration in Computational Data Analytics • Honors Program • UConn STEM Scholar Community.
• Relevant Coursework: Graduate-Level Machine Learning, Artificial Intelligence, and Principles of Databases.

Research Experience

Undergraduate Research Assistant | Advisor: Professor Joseph Johnson Storrs, CT
Project: *Financial Time Series Modeling for Quantitative Finance* May 2025 – Present
• Conducting research on modeling and forecasting financial time series using machine learning techniques.
• Investigating predictive indicators for financial markets and implementing quantitative models in Python.
• Exploring alpha generation strategies and evaluating model performance in the context of algorithmic trading.
Undergraduate Research Assistant | Advisor: Dr. Qian Yang Storrs, CT
Project: *Improving Image Segmentation using Few-Shot Learning* Jan 2025 – Present
• Researching few-shot learning in computer vision to develop a Semi-Siamese Neural Network for change detection.
• Trained U-Net and Semi-Siamese models in PyTorch, evaluating performance against state-of-the-art benchmarks, and refining for real-world manufacturing conditions.
• Collaborating with faculty and PhD mentors to transition the research into a deployable product for industrial use.

Leadership & Innovation

Entrepreneurial Lead – Accelerate UConn (NSF I-Corps) Cohort 32 Hartford, CT
UConn Center for Entrepreneurship & Innovation June – July 2025
• Participating in UConn's I-Corps innovation cohort focused on translating academic research into market-ready products.
• Representing team "LitheVision" in applying AI to industrial error detection, customer discovery, and product planning.

Projects

Credit Card Fraud Detection using Balanced Random Forest Apr 2025
• Implemented Balanced Random Forest (BRF) to detect fraud in a highly imbalanced real-world dataset.
• Evaluated model with F1-score, G-Mean, and Weighted Accuracy, benchmarking against state-of-the-art methods.
Personal Portfolio Website – https://haileyannreed.github.io/portfolio/ Mar 2025
• Curated and deployed a personal site showcasing projects in AI, ML, computer vision, and quantitative finance.

Technical Skills

• **Languages**: Python, C, SQL, Haskell, HTML, JavaScript, CSS.
• **Frameworks/Libraries**: PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, NetworkX.
• **Tools**: Git, FRED API, HPC (UConn), HuggingFace, LaTeX (Overleaf), Excel.
• **AI/ML**: Linear & Logistic Regression, SVMs, Optimization Techniques, Model & Feature Selection, Regularization, Decision Trees, Dimensionality Reduction (PCA), Neural Networks, Performance Evaluation, Clustering (K-means).
• **Quantitative Modeling & Time Series Forecasting**: ARIMA, Exponential Smoothing, RNN, LSTM, GRU, Transformer, Feature Engineering, Stationary Analysis.
• **Machine Learning – Computer Vision**: U-Net, Stable Diffusion, Siamese & Semi-Siamese Networks, Few-Shot Learning, Data Augmentation.

Work Experience

BEACH (Belonging, Engagement, Affinity Computer Hangout) Lifeguard Aug 2024 - Present
UConn School of Computing, Storrs, CT
• Tutoring undergraduate students in computer science courses and organizing faculty-student engagement events.