Hailey A. Reed

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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 • STEM Scholar.

• Relevant Coursework: Graduate-Level Machine Learning, Artificial Intelligence, and Principles of Databases.

• Activities: Women in Math, Science, and Engineering (WiSME), UConn STEM Scholar Community.

Research Experience

Undergraduate Research Assistant   Storrs, CT

Advisor: Dr. Qian Yang   Jan 2025 – Present

Project: *Improving Image Segmentation using Few-Shot Learning*

• Researching computer vision using few-shot learning to train a Semi-Siamese Neural Network.

• Trained U-Net and Semi-Siamese models in PyTorch for change detection in material science.

• Evaluated results against state-of-the-art benchmarks in image segmentation and change detection.

Technical Skills

• **Languages**: Python, C, JavaScript, SQL, Haskell, HTML, CSS.

• **Frameworks/Libraries**: PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, NetworkX.

• **Tools**: Git, HuggingFace, LaTeX (Overleaf), Excel.

• **AI/ML**: Generative AI, Computer Vision, Stable Diffusion, U-Net, Few-Shot Learning.

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.

Artificial Intelligence Honors Project   Sept 2024

• Built a Python tool to visualize BFS, DFS, UCS, A*, and GBFS on a map of Romania using NetworkX.

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.

Student Administrative Assistant   Jan 2024 - May 2024

UConn Engineering Experiential Education Office, Storrs, CT

• Designed social media content using Canva, tracking engagement through Meta analytics.

• Planned and facilitated engineering events, utilizing OneNote and Excel for organization.

Awards & Honors

• Member, Alpha Lambda Delta and National Society of Collegiate Scholars Honor Societies.   2023 – Present

• STAG Hack Winner, Fairfield University (2021) – Digital-first tool to address opioid crisis.   2021

Volunteer Experience

Peer Tutor   2020-2022

The Academy of Our Lady of Mercy Lauralton Hall, Milford, CT

• Provided tutoring in Honors Physics, assisting students in improving assessment scores.