

Dadety Wood

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EXPERIENCE

ControlExpert

Research and Development Co-op

Langenfeld (Rhd.), Germany

June 2023–August 2023

- Implemented computer vision filters in Python to aid in the detection of image manipulations.
- Developed machine learning models for image manipulation detection in PyTorch, improving detection accuracy by over 10% compared to old models.

Thread

Machine Learning Engineer

Grand Forks, ND

January 2022–January 2023

- Developed a lightweight API in Python using Flask, RabbitMQ, and Celery for running machine learning jobs on images which provided a 4x speed up in inference time.
- Created methods for analyzing damages detected from drone inspection images for purposes of assigning damage severity and location to aid customers in repair decisions.
- Designed comprehensive unit tests for the machine learning pipeline using pytest, providing 90% code coverage.
- Implemented an automated documentation site that updates on code changes pushed to the GitHub repository.

DePaul University, MedIX REU

Undergraduate Researcher

Chicago, IL

June 2021–August 2021

- Collaborated with a small team to design and implement a novel end-to-end model in TensorFlow that combines the benefits of a convolutional neural network and the k-nearest neighbors algorithm ([FOMO-VL 2022 Workshop Paper](#)).
- Conducted experiments to test the efficiency and accuracy of our model on different data.

Carrier

Software Engineer Co-op

Syracuse, NY

February 2021–May 2021

- Developed a Micro-Service application in C# to generate XML reports for products.
- Created a C# console application to automate Excel testing processes, improving testing efficiency by 50%.

PROJECTS

- **GraphGrad – Custom Tensor Library (C++):** A custom tensor library built using C++ and CUDA with Python binding support. Multiple optimization techniques were utilized such as Lazy Evaluating, OpenMP CPU optimizations, SIMD computation, Common Subexpression Elimination, and GPU kernels.
- **Text Recovery from Palimpsests (Python):** An implementation of a Spatial Variational Autoencoder in PyTorch for the purpose of recovering text from palimpsests (old manuscripts that were reused or altered) using multispectral image data.
- **Web Checkers (Java):** A web application for checkers to be played between two people or a simple AI. Created in a team with the Agile development process using Java (backend), Spark (REST APIs), JavaScript (front-end), and Maven (builds).

EDUCATION

Rochester Institute of Technology

Master of Science (M.S.) in Computer Science (GPA: 3.95/4.0)

Rochester, NY

January 2023–December 2023

Rochester Institute of Technology

Bachelor of Science (B.S.) in Computer Science, Minor in Mathematics (GPA: 3.83/4.0)

Rochester, NY

August 2018–December 2022

SKILLS

- **Programming Languages:** Python, Java, C++, C#, C, SQL
- **Frameworks and Libraries:** PyTorch, Tensorflow, REST API, Flask, RabbitMQ, Pytest, JUnit
- **Developer Tools:** Git, GitHub, VSCode, Linux, Docker, Azure, Jira, Agile Development