

# LINH (HELIA) DINH

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## EDUCATION

### Franklin & Marshall College (F&M) | Lancaster, PA

*Expected Graduation:* May 2023

B.A. Computer Science & Business, Organizations & Society (BOS)

GPA: 3.62/4.0

- **Leadership & Accomplishments:** Honors List/Dean's List (2019 – 2021), Hackman Research Scholarship Summer 2021, Club Council Advisory Board Member (2019 – present), Phi Sigma Pi Honors Fraternity

## EXPERIENCE

### Artificial Intelligence/Machine Learning Engineer Intern

July 2020 – Dec. 2020

*Computer Vision Division - R&D Center, Viettel Solutions Corp.*

Hanoi, Vietnam

- Mastered Machine Learning and Computer Vision fundamentals in a short period
- Researched and executed image data selection and preprocessing for Deep Neural Network (DNN) training; reduced data noises by 80%
- Developed and trained a gender classification model on the processed IMDB-Wiki (500k+ images) dataset
- Improved accuracy rate by 5%, acquired a final 96+% accuracy in training
- **Technologies:** Python, PyTorch, OpenCV, NumPy, Scikit-learn, Pandas, Tensor Board

### Deep Learning Research Assistant, Hackman Scholar

June 2021 – Aug. 2021

*Computer Science Department, F&M*

Lancaster, PA

- Collaborated with a teammate in professor Bradley McDanel's research on DNN Training Acceleration
- Optimized hardware efficiency up to 2x with a novel sparsity structure and stochastic pruning approach
- Achieved up to 15-25% reduction in training time without affecting model performance
- Resulted in a paper submitted to the 26<sup>th</sup> International Conference on Pattern Recognition 2022
- **Technologies:** Python, PyTorch, NVIDIA A100 GPU, LaTeX

### IT Help Desk Assistant

Jan. 2020 – Present

*Information Technology Services (ITS) Department, F&M*

Lancaster, PA

- Delivers general reception, answering phones, addressing questions from walk-ins, routes calls, technical support related to classroom technology and network on campus

### Steinman College Center Manager

Aug. 2019 – Present

*Office of Student Engagement & Leadership (OSEL), F&M*

Lancaster, PA

- Promoted to Manager in the Fall 2021; supervises a group of 15 student workers
- Oversees the daily management of the College Center and facilitates the program of co-curricular, administrative, and external organizations on campus

## PROJECTS

### DNN gradients pruning (PyTorch)

June 2021 – Aug. 2021

*Summer Research, Computer Science Department, F&M*

Lancaster, PA

- Implemented quantized convolution layers for a DNN trained on Fashion MNIST dataset
- Invented and assessed different novel Stochastic Pruning approaches on the gradients during backward pass, resulting in one that allows a 2x increase in computational efficiency
- Utilized Matplotlib for model visualization

### Gender Classification Model (PyTorch)

July 2020 – Dec. 2020

*AI/ML Engineer Intern, Viettel Solutions Corp.*

Hanoi, Vietnam

- Participated in the processing of IMDB-Wiki dataset using RetinaFace in conjunction with RCNN, and Scikit-learn library to be ready for gender classification training and testing
- Built and trained the DNN model; generated model visualization with TensorBoard
- Reduced noises in dataset by 80%; Yielded a training accuracy rate of 96+%

### User-friendly Music Application (Python)

Personal Project

- Allows users to download MP4 from Youtube using Youtube\_dl and converts it to MP3 using FFmpeg
- Stores downloaded songs' information in JSON file and lets users choose a song from the list to take actions (play, pause, stop) using Pyglet library

## SKILLS

- **Computer:** Python, C++, Java, PyTorch, HTML-CSS-JavaScript, React, LaTeX, Github; Data Structures, Algorithms, Computer Organization, Networking, Theory of Computer Science, Human-Robot Interaction, Probability & Statistics, Discrete Mathematics, Machine Learning.
- **Languages:** Vietnamese (native), English (fluent)