Michael Vinh Pham

500 College Ave Swarthmore, PA 19081

pham_michael@outlook.com | mpham8.github.io

Education

Swarthmore College — Swarthmore, PA

Pursuing Bachelor's of Arts in Mathematics (emphasis in Statistics) and Economics, 3.75 GPA — Class of 2025

- Relevant Coursework: Linear Algebra, Statistics II, Econometrics II, Data Structures & Algorithms, Machine Learning (Stanford CS229 Online lecture), Deep Learning (Stanford CS230 Online lecture)
- Activities: Cross Country/Track & Field Student-Athlete, Effective Altruism Club

Work Experience

University of California San Diego Engineers for Exploration REU — San Diego, CA

Undergraduate Machine Learning Researcher | Pytorch, Hugging Face — June 2023 - Present

- Researching and developing techniques to semantically segment UAV imagery to track mangrove tree deforestation/loss from climate change
- Achieved 98.2% (5% info gain) pixelwise accuracy on Jamaica dataset through data preprocessing, architecture testing, hyperparameter tuning

Swarthmore College Qu Lab — Swarthmore, PA

Undergraduate Machine Learning Researcher — February 2023 - July 2023

- Advised by Dr. Xiaodong Qu
- Co-authored papers on ML for EEG classification accepted to KDD and HCII conferences

Swarthmore Economics Department — Swarthmore, PA

Teaching Assistant — August 2022 - Present

- Intro to Economics (Fall 2022) and Intro to Econometrics (Fall 2023)
- Led problem session clinics, facilitated student collaboration, explained concepts in clear, concise manner
- Through Visible Hand in Economics program consciously provided opportunities for diverse perspectives to be heard, provided advice towards completing an economics major

University of California San Francisco Microbiome Sequencing Lab — Remote

Data Analyst | R, Keras, SciKit — November 2022 - May 2023

- Advised by Dr. Renuka Nayak
- Working with colleagues to analyze high-dimensional sparse dataset to find how gut microbiome in SKG mouse colony alter immune phenotype and arthritis development
- Developed new ML architecture achieving 0.3, 0.38, 0.44 info gain on MCC score over best existing DL model when predicting Gender, Abx treatment, SKG/WT phenotypes/traits, respectively

Karner Blue Capital — Remote

Quantitative Research Intern | Pandas, SciKit — May 2022 - August 2022

- Read mathematical financial literature to implement models such as Fama-French and CLA Semivariance into ESG firm's Portfolio Optimizer, outperforming previous optimizer by 19 ppt on average over 6-year backtests
- Interpreted results and presented summary reports of findings to Vice President of KBC regularly

Technical Skills

Programming Languages: C++, JavaScript

Data/ML Technologies: Python (PyTorch, Tensorflow, Hugging Face, Pandas, SciKit-Learn), SQL, R, Stata, Git, AWS

Projects

Socioeconomic factors affecting Urban Green Space in Portland, Oregon | Pytorch — Summer 2023

- Currently developing ML and CV models to track urban greenspace coverage from Google street view images in Portland with the goal of running econometric analysis on how socioeconomic factors affects urban green space coverage

Low-Resource Bam-Fr Neural Machine Translation | Tensorflow, Pandas — February 2023

- Worked with partner on using Transformer architecture to machine translate neglected low-resource language
- Achieved BLEU score of 14.81 on Bambara to French translation with limited data and computing power
- Placed 5th in Orange Silicon Valley Bambara-French machine translation competition