Tieu Hoang Huan Pham

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EDUCATION

University of Oklahoma, Gallogly College of Engineering, Norman, OK
Ph.D in Computer Science — Expected May 2029

Cornell University, College of Computing and Information Sciences, Ithaca, NY
M.Eng. in Computer Science — December 2024

Hofstra University, Fred DeMatteis School of Engineering and Applied Science, Hempstead, NY
B.S. (Honors with Distinction) in Computer Science and Mathematics;
Dean's list – all terms; Magna Cum Laude — December 2023

RELEVANT COURSES

Computer Science: Introduction to Reinforcement Learning, Introduction to Machine Learning, Fundamentals of Data Compression, Algorithm and Design Analysis, Introduction to AI.

Mathematics: Optimization I, Abstract Algebra I, Real Analysis I, Linear Algebra, Probability and Statistics II.

HONORS /AWARDS & AFFILIATIONS

Hofstra Computer Science and Mathematics Departmental Honors | Hofstra University Provost Scholarship
Member of Phi Beta Kappa | Member of Pi Mu Epsilon | Member of Upsilon Pi Epsilon

PUBLICATION

Pham T.H.H, Wu Y, Ikuta T, John M, "Schizophrenia versus Healthy Controls Classification based on fMRI Raw 4D spatiotemporal Data", Journal of Neurocomputing – "in review", https://www.researchgate.net/publication/388415742_Schizophrenia_versus_Healthy_Controls_Classification_based_on_fMRI_4D_Spatiotemporal_Data.

Park Y, Pham T.H.H, Gao H. O, "Ten Years of DERA Air Quality Policy Effects on Disparities in Seven US Port Cities: A Spatial Difference-in-Differences Approach", Cities - "in progress".

Park Y, Pham T.H.H, Gao H. O, "Air Quality Disparities in US Port Cities", Nature - "in progress".

RESEARCH EXPERIENCE

Cornell University, College of Veterinary Medicine — 01/25 – 05/25
AI Consultant | Advisors: Dr. Jonathan H. Wood
Designed and deployed two AI web applications to enhance medical education feedback systems. Refactored and streamlined the user interface for a faculty evaluation tool and collaborated with VetMed IT to launch automated faculty feedback into alpha testing. Led the development of student-facing application that delivers AI-generated longitudinal coaching summaries in narrative form. Built and deployed both applications using FastAPI and modern web frameworks, integrating them into Cornell's production server environment for live testing.

Zucker Hillside Hospital, Division of Psychiatry Research, Northwell Health — 01/25 – 05/25
Data Science Consultant/Visiting Scholar | Advisors: Dr. Anne Golden
Collaborated on a cancer epidemiology study examining post-9/11 cancer incidence among Pace
Conducting research on the application of deep learning models to functional MRI data to identify neural biomarkers of postpartum depression. Implementing CNNs and RNNs to classify brain activity patterns in women with postpartum depression versus healthy controls.

Feinstein Institutes for Medical Research, Northwell Health 01/25 – 05/25
Data Science Consultant/Visiting Scholar | Advisors: Dr. Jacqueline Moline
Collaborated on a cancer epidemiology study examining post-9/11 cancer incidence among Pace University employees across two campuses. Developed a comprehensive statistical analysis plan with the lead biostatistician and PI. Led data management efforts and executed multivariate analyses to evaluate site-specific cancer risks using large-scale health surveillance datasets. Made detailed statistical reports to ensure analytical accuracy and reproducibility.

Hebb's Neuroscience Analytics 01/25 – 05/25
Data Science Intern | Advisors: Dr. Majnu John
Led research focused on extracting actionable insights from large-scale healthcare datasets. Applied advanced statistical modeling and machine learning algorithms to analyze patterns related to health outcomes and clinical decision-making. Contributed to the interpretation and communication of results by assisting in the drafting of analytical summaries and conclusions for research reports and publications.

Cornell University, CTECH Lab, Civil and Environmental Engineering 09/24 – 05/25
Research Assistant | Advisors: Dr. Gina Park, Dr. H. Oliver Gao
Co-authored a research paper on environmental justice issues related to pollution in major U.S. port cities. Developed a robust analytical framework that integrated statistical and geospatial analyses to assess emissions from international trade and quantify associated health impacts. Utilized Python and R to build advanced statistical models and conduct multi-level analyses on large datasets.

Hofstra University, Zucker School of Medicine, Department of Psychiatry 09/23 – 02/25
Research Intern/Assistant | Advisors: Professor Majnu John, Professor Yihren Wu
Applied Generative Adversarial Networks (GANs) to neuroimaging for schizophrenia classification using raw 4D functional MRI data, addressing the challenge of deriving meaningful 2D slices from 4D tensors. Explored and evaluated multiple GAN variants and conducted a comparative analysis of their performance against Recurrent Neural Networks (RNNs) and Convolutional Neural Networks (CNNs) for this classification task.

Cornell University, AI Innovation Lab, Department of Information Science 09/24 – 01/25
AI Innovator | Advisors: Ayham Boucher
Developed generative AI tools utilizing Large Language Models (LLMs) through Azure OpenAI to enhance clinical training feedback for veterinary students. Led the design and implementation of chatbots and retrieval-augmented generation applications tailored to address complex challenges in education and healthcare. Contributed to a pioneering project that underscored the potential of LLM-driven applications in education and healthcare.

Hofstra University, Zucker School of Medicine, Department of Psychiatry 12/23 – 12/24
Research Intern/Assistant | Advisors: Professor Majnu John, Professor Yihren Wu
Survival analysis methods with time-varying covariates to compare the time-to-rehospitalization between patients with schizophrenia on long-acting-injections versus treatment-as-usual. Machine Learning methods such as RNNSurv and CNNSurv are also being utilized for this project.

Hofstra University, Computer Science Department 09/23 – 12/23
Research Assistant | Advisor: Professor Jianchen Shan
Expanded the use cases of Gemini, a subsystem engineered to realign misaligned huge pages. Designed test cases to assess its efficacy under complex scenarios such as memory deduplication, memory ballooning, and swapping.

Hofstra University, Computer Science Department 02/23 – 05/23
Honors Thesis, *Examining Biases in AI in the Mortgage Sector, Departmental Honors*
Advisor: Professor Richard Puerzer, Professor Andrew Lane
Explored the application of machine learning in the mortgage sector. Employed statistical analysis, particularly the chi-square test, to investigate mortgage approval rates across different demographics in New York. Key findings revealed algorithmic biases that underscored the critical need for equitable technology practices within the financial sector to prevent systemic discrimination. Collaborated with Professors from Urban Studies and Fintech to address the challenge. Applied class balancing techniques to

existing algorithms with some degree of success, highlighting the complexity of such intersectional issues in practice.

TEACHING / LEADERSHIP EXPERIENCE

Hofstra University, Computer Science Department 09/22 – 12/23
Tutor
Guided students on all fundamental computer science courses (CS14,15,16,17,24,110,112), covering core concepts and practical applications. Adapted teaching methods to meet diverse student needs, ensuring understanding of both foundational and emerging topics. Assisted students in breaking down complex coding questions for methodical problem-solving. Reviewed and provided feedback on students' coding solutions to improve correctness and performance.

Hofstra University, Mathematics Department 09/22 – 12/22
Tutor
Conducted personalized 1-1 tutoring sessions, adapting approach to each student's unique needs and learning styles for quizzes and exams preparation. Assisted students in tackling challenging math problems through visualization techniques, aiding in the comprehension of abstract concept.

Hofstra University, Computer Science Department 09/22 – 12/22
Lab Assistant, CSC 17: Advanced Data Structures and Object-Oriented Programming
Assessed and graded student work for performance and correctness. Provided debugging support, and explained technical concepts to enhance understanding.

ADDITIONAL EXPERIENCE

Nhu Hai Cat Tuong Co., LTD – Ho Chi Minh City 07/22 - Present
Chief Technology Officer
Lead the launch of my family tea business by crafting a comprehensive business plan covering all operational facets from production to consumption. Conduct industry analysis using Python and MATLAB for data analysis, and develop web scraping tools to gather essential data. Employ logistic regression and random forest models for industry trend forecasting, aiding in precise supply and demand strategizing. This initiative not only positioned the business effectively within the industry but also translated academic learnings into practical business solutions.

Hofstra University, Zarb School of Business 09/23 – 12/23
Student Managed Investment Fund (SMIF)
Collaborated with other students to present analysis and investment recommendation of ESG focused ETF stocks to Hofstra's SMIF Supervisory Board, alumni and investment practitioners. Resulted in the successful purchase of VHT stocks which makes up 19% of the ESG portfolio.

Navitas – London 05/19 – 08/19
Intern
Successfully designed and executed a data collection project. Enhanced the company's understanding of its target audience by assisting in the creation of a comprehensive framework which utilized Google Surveys for data gathering. Addressed and met client-specific needs by delivering tailored, efficient, and reliable solutions in collaboration with the team. Improved team communication and project outcomes by actively participating in team discussions and feedback sessions, learning effective and concise communication.

CERTIFICATIONS

Bloomberg ESG – 12/23 | Bloomberg Finance Fundamentals – 12/23 | Bloomberg Market Concepts –12/23

TECHNICAL SKILLS

Computational: Pandas, NumPy, PyTorch, Keras, TensorFlow, Scikit-Learn, Seaborn, Matplotlib, Gym, Libpysal, Spreg, Esda, FastAPI, Flask, Docker, OpenVPN, AWS (S3, SSO), Azure OpenAI; MATLAB, Cygwin, SSH, Eclipse, MS Visual Studio, Oracle VM VirtualBox, Bloomberg, Excel

Coding languages: Python, C++, C#, C, Java, F#, Rust, Perl, R

LANGUAGES
Fluent in English, Vietnamese