

# Hieu T. Pham

Huntsville, Alabama 35899

☎ (256) 824-2331 • ✉ hieu.pham@uah.edu

Curriculum Vitae

January 28, 2025

## Education

---

### Ph.D. Industrial Engineering - Operations Research and Analytics

*Iowa State University*

2018

### M.S. Mathematics

*Kansas State University*

2015

### B.S. Mathematics

*Tennessee Technological University*

2014

## Academic Experience

---

### Assistant Professor of Management Science

*College of Business*

University of Alabama in Huntsville

2021 – Present

### Graduate Research/Teaching Assistant

*Iowa State University*

2016 – 2018

### Graduate Teaching Assistant

*Kansas State University*

2014 – 2016

## Industry Experience

---

### Machine Learning Engineer

*Syngenta Group*

2020 – 2021

### Research Data Scientist

*Syngenta Group*

2018 – 2020

### Data Scientist

*Omni Analytics Group*

2017 – 2018

## Publications

---

### Published

1. K. Wood, C. Pyun, and H. Pham. "Beyond Green Labels: Assessing Mutual Funds' ESG Commitments through Large Language Models". *Finance Research Letters*. 2024; (ABDC Rank: A).
2. H. Pham, Y. Tan, T. Singh, V. Pavlopoulos, and R. Patnayakuni. "A multi-head attention-like feature selection approach for tabular data". *Knowledge-Based Systems*. 2024; 112250. (ABDC Rank: A).
3. S. Khaki, N. Safaei, H. Pham, and L. Wang. "Wheatnet: A lightweight convolutional neural network for high-throughput image-based wheat head detection and counting". *Neurocomputing*. 2022; 489:78–89.
4. H. Pham, J. Reisner, A. Swift, S. Olafsson, and S. Vardeman. "Crop phenotype prediction using biclustering to explain genotype-by-environment interactions". *Frontiers in Plant Science*. 2022; 13.

5. S. Moeinizade, H. Pham, Y. Han, A. Dobbels, and G. Hu. "An applied deep learning approach for estimating soybean relative maturity from UAV imagery to aid plant breeding decisions". *Machine Learning with Applications*. 2022; 7:100233.
6. L. Mosley, H. Pham, X. Guo, Y. Bansal, E. Hare, and N. Antony. "Towards a systematic understanding of blockchain governance in proposal voting: A dash case study". *Blockchain: Research and Applications*. 2022; 100085.
7. S. Khaki, H. Pham, Z. Khalilzadeh, Z. Masoud, N. Safaei, Y. Han, W. Kent and L. Wang. "High-Throughput Image-Based Plant Stand Count Estimation Using Convolutional Neural Networks". *PLOS One*. 2022; 17(7), e0268762.
8. M. Shahhosseini, G. Hu., and H. Pham. "Optimizing Ensemble Weights and Hyperparameters of Machine Learning Models for Regression Problems". *Machine Learning with Applications*. 2022; 100251.
9. S. Khaki, H. Pham, and L. Wang. "Simultaneous corn and soybean yield prediction from remote sensing data using deep transfer learning". *Nature Scientific Reports*. 2021; 11(1):1–14
10. Y. Han, J. Cameron, L. Wang, H. Pham, and W. Beavis. "Dynamic Programming for Resource Allocation in Multi-allelic Trait Introgression". *Frontiers in Plant Science*. 2021; 12:1181.
11. S. Khaki, H. Pham, Y. Han, A. Kuhl, W. Kent, and L. Wang. "DeepCorn: A semi-supervised deep learning method for high-throughput image-based corn kernel counting and yield estimation". *Knowledge-Based Systems*. 2021; 106874.(ABDC Rank: A)
12. S. Moeinizade, Y. Han, H. Pham, G. Hu, and L. Wang. "A look-ahead Monte Carlo simulation method for improving parental selection in trait introgression". *Nature Scientific Reports*. 2021; 11(3918).
13. J. Li, J. Reisner, H. Pham, S. Olafsson, and S. Vardeman. "Biclustering with missing data". *Information Sciences*. 2020; 510:304 – 316.
14. H. Pham and S. Olafsson. "On Cesáro averages for weighted trees in the random forest". *Journal of Classification*. 2020; 37:223 – 236.
15. S. Khaki, H. Pham, Y. Han, A. Kuhl, W. Kent, and L. Wang. "Convolutional neural networks for image-based corn kernel detection and counting". *Sensors*. 2020; 20:2721.
16. H. Pham and S. Olafsson. "Bagged ensembles with tunable parameters". *Computational Intelligence*. 2019; 35:184 – 203.
17. J. Reisner, H. Pham, S. Olafsson, and S. Vardeman. "biclustermd: An R package for biclustering with missing values", *The R Journal*. 2019; 11(2):69–84.

### Revise and Resubmit.....

- o K. Wallach, A. Koschmann, H. Pham, and G. Arwade. "Analyzing the Impact of Faces on Consumer Engagement in Branded Social Media Videos: A Machine Learning Approach". Submitted to *Journal of Consumer Marketing*. (ABDC Rank: A).
- o H. Pham, V. Pavlopoulos, R. Patnayakuni, S. Verderbar, and K. Bliss. "The Hidden Keywords: An Algorithmic Approach to Uncovering the Value of Negative Keywords in Search Advertising". Submitted to *Decision Sciences*. (ABDC Rank: A\*).

### Under Review.....

- o H. Pham, G. Arwade, Y. Tan, P. Bhatt, and V. Pavlopoulos. "Training Data Optimization for Classification via Weighted Dimensional Reduction and Adaptive Stratified Clustering for Balanced and Imbalanced Data". Submitted to *Journal of Classification*.
- o V. Pavlopoulos, H. Pham, P. Bhatt, Y. Tan, and R. Patnayakuni "An R Package for Multiple Change Point Analysis of Multivariate Data for Changes in the Covariance Structure". Submitted to *R Journal*.
- o E. Can, K. Lyu, H. Pham, and J. Yang. "The Effects of 2012 Kansas Income Tax Reform on Different Types of Entrepreneurship: Evidence from the Current Population Survey". Submitted to *Applied*

*Economics*. (ABDC Rank: A).

### In Preparation.....

- o H. Pham. "An Attention Inspired Feature Selection Approach via Filtering". Target *Journal of Database Management*. (ABDC Rank: A)

### Peer-reviewed Conference Proceedings and Presentations

---

1. S. Gholston, N. Loyd, H. Pham, and C. St. John. 2024. *Review of the new Baldrige Organizational Assessment Process*, American Society for Engineering Management, Virginia Beach, VA.
2. V. Schrimpscher, H. Pham, S. Gholston, A. Wooley, and A. Tettey. 2024. *A Review of Research on Supply Chain Antifragility: Unveiling Enablers for Resilience Enhancement*, American Society for Engineering Management, Virginia Beach, VA.
3. M. Hudson, H. Pham, Y. Tan, and A. Wooley. 2024. *Large Language Models to Improve Defense Acquisition*, INFORMS Annual Meeting, Seattle, WA.
4. H. Pham, V. Pavlopoulos, and R. Patnayakuni. 2024. *Reducing Search Advertisement Spending Through a Two-Stage Term Embedding and Optimization Approach*, INFORMS Annual Meeting, Seattle, WA.
5. R. Patnayakuni, H. Pham, and M. Shen. 2024. *From Content to Quiz: Using AI to Simplify Assessment Question Development*, TRED Talk, SAP Academic Community Conference North America and ERPsim User Group Meeting, Montreal, Canada.
6. C. Mwanza, and H. Pham. 2024. *Graph Neural Networks for Ethereum Fraud Detection*, IISE Annual Conference and Expo, Montreal, Canada.
7. H. Pham, M. Taufeeq, S. Gholston, and S. Mahalingam. 2024. *Using Machine Learning to Analyze Hospital Admissions*, IISE Annual Conference and Expo, Montreal, Canada.
8. H. Pham. 2023. *A Biclustering Approach to Phenotype Prediction*, INFORMS Annual Meeting, Phoenix, AZ.
9. N. Wright, S. Gholston, H. Pham, and V. Menon. 2023. *Analysis on the Effectiveness and Impact of the Baldrige Performance Excellence Program on High-Performing Organizations*, American Society for Engineering Management, Denver, CO.
10. K. Wallach, H. Pham, A. Koschmann, and G. Arwade. 2023. *Face Size and User Engagement in Social Media Videos: A Machine Learning Approach*, American Marketing Association Conference, Nashville, TN.
11. L. Mosley, H. Pham, Y. Bansal, E. Hare, and C. Mwanza. 2023. *Image-Based Sorghum Head Counting When You Only Look Once*, Proceedings of the 56th Hawaii International Conference on System Sciences, Maui, HI.
12. H. Pham. 2022. *Towards a Systematic Understanding of Blockchain Governance in Proposal Voting: A Dash Case Study*, INFORMS Annual Meeting, Indianapolis, IN.
13. S. Moeinizade, Y. Han, H. Pham, G. Hu, and L. Wang. 2020. *A Look-ahead Monte Carlo Simulation Method for Improving Parental Selection in Trait Introgression*, INFORMS Annual Virtual Meeting.
14. S. Khaki, H. Pham, Y. Han, A. Kuhl, W. Kent, and L. Wang. 2020. *Convolutional Neural Networks for Image-Based Corn Kernel Detection and Counting*, 2020 CVPR: The 1st International Workshop and Prize Challenge on Agriculture-Vision: Challenges & Opportunities for Computer Vision in Agriculture.
15. E. Almeda-Basora and H. Pham. 2019. *A Sequentially Updating Bayesian Network that Beats the Oddsmakers by Predicting the Total Number of Points Scored in NBA Games*, Midwest Sports Analytics Meeting, Pella, IA.
16. H. Pham. 2019. *Genetics by Environment Interaction*, INFORMS Student Chapter at Iowa State University, Ames, IA.

17. Y. Han and H. Pham. 2019. *Data Analytics in Agricultural Business*, 2nd Midwest Statistical Machine Learning Colloquium, Ames, IA.
18. H. Pham. 2019. *Biclustering to Explain Genotype-by-Environment Interactions*, Syngenta Data Science Community of Practice, Raleigh, NC.
19. H. Pham. 2019. *The Digital Future of Agriculture*, INFORMS Annual Meeting, Seattle, WA.
20. F. Amini, M. Shahhosseini, G. Hu, and H. Pham. 2019. *Improving Prediction Accuracy of Regression Problems with Optimization-based Ensemble Learning and a Two-layer Feature Selection Method*, 2019 Midwest Big Data Hub All-Hands Meeting, Chicago, IL.
21. L. Mosley, H. Pham, Y. Bansal, and E. Hare. 2019. "Sorghum Head Image Analysis When You Only Want to Look Once", In *Proceedings of the Second International Workshop on Machine Learning for Cyber-Agricultural Systems*.
22. M. Shahhosseini, G. Hu and H. Pham. 2019. "Optimizing Ensemble Weights for Machine Learning Models: A Case Study for Housing Price Prediction", In *Proceedings of the 2019 INFORMS Conference on Service Science*.
23. H. Pham. 2018. *Data Analytics in Agricultural Business*, INFORMS Annual Meeting, Phoenix, AZ.
24. H. Pham. 2018. *Biclustering for Sparse Data*, Iowa State University IMSE Graduate Seminar, Ames, IA.
25. J. Reisner and H. Pham. 2018. *Biclustering for Sparse Data*, 1st Midwest Statistical Machine Learning Colloquium, Ames, IA.

## Funding

---

1. College of Business Summer 2024 Course Innovation Grant, *University of Alabama in Huntsville*, 05/2024 - 08/2024, PI.
2. College of Business Summer 2024 Research Grant,, *University of Alabama in Huntsville*, 05/2024 - 08/2024, PI.
3. Data Lifecycle and Model Governance, *Franklin Creative Solutions*, 09/2022 - 12/2022, PI.
4. College of Business Summer 2022 Course Innovation Grant, *University of Alabama in Huntsville*, 05/2022 - 08/2022, PI.
5. New Faculty Research Grant, *University of Alabama in Huntsville*, 04/2022 - 05/2023, PI.

## Teaching

---

### The University of Alabama in Huntsville.....

- HON 301: Seminar on Cryptocurrencies and Decentralized Finance
- HON 301: Seminar on Sports Analytics
- MSC 385: Operations Analysis
- IS 471/571: Business Analytics and AI
- MSC 450/550: Intro Analytics and Programming
- IS 480/580: AWS Academy Machine Learning
- MSC 615: Decision Modeling
- MSC 650: Special Topics - Deep Learning
- MSC 692: Business Analytics Practicum

### Iowa State University.....

- IE 361: Statistical Quality Assurance

- IE 590: Special Topics - Analytics Projects for Improved Decision Making in the Financial Sector
- IE 590: Special Topics - Analytics Projects for Improved Decision Making in the Agricultural Sector

### **Kansas State University**.....

- Math 100: College Algebra
- Math 240: Elementary Differential Equations

## **Honors and Awards**

---

- **2024**: Outstanding Undergraduate Faculty Teaching Award, UAH College of Business
- **2024**: Outstanding Graduate Faculty Teaching Award, UAH College of Business
- **2019**: 1st Place in Image-Based Sorghum Head Object Detection and Counting Machine Learning Competition, Second International Workshop on Machine Learning for Cyber-Agricultural Systems
- **2018**: Graduate Student Research Excellence Award, Iowa State University
- **2018**: Best Poster - *Biclustering for Sparse Data*, 1st Midwest Statistical Machine Learning Colloquium
- **2018**: Most Popular Poster - *Biclustering for Sparse Data*, 6th Annual IMSE Research Symposium
- **2017**: Graduate Student Teaching Excellence Award, Iowa State University
- **2017**: Most Popular Poster - *Understanding why NBA Teams with Superior Talent Lose in the Playoffs*, 5th Annual IMSE Research Symposium
- **2014 – 2016**: Timothy R. Donoghue Graduate Scholarship, Kansas State University

## **Mentoring**

---

### **The University of Alabama in Huntsville**.....

- **Jan. 2022 – May 2023**: Charity Mwanza, Masters of Science in Business Analytics - Thesis Advisor

## **Institutional Service**

---

- **2024**: Curriculum Committee Member, UAH College of Business
- **2024**: Lecturer Industrial and Systems Engineering and Engineering Management Search Committee Member, UAH College of Engineering
- **2023**: Faculty Development Committee Member, UAH College of Business
- **2022**: Tenure Track Management Science Search Committee Member, UAH College of Business
- **2021**: Information Systems, Supply Chain and Analytics, Department Chair Search Committee Member, UAH College of Business

## **Professional Service**

---

- **2024**: Co-Chair, 2024 INFORMS Data Mining Society's Data Challenge
- **2023**: Co-Chair, 2023 INFORMS Data Mining Society's Data Challenge
- **2023**: Session Chair, 2023 INFORMS Annual Meeting
- **2022**: Session Chair, 2022 INFORMS Annual Meeting
- **2019**: Organizing Committee Member, 2nd Midwest Statistical Machine Learning Colloquium
- **Invited Manuscript Reviewer**: *Agriculture; Agronomy; Applied Soft Computing; Artificial Intelligence Review; Blockchain: Research and Applications; Cluster Computing; Computers, Materials and Continua; Discover Artificial Intelligence; Discover Applied Sciences; Distributed Ledger Technologies; Expert*

*Systems with Applications; Frontiers in Plant Science; IEEE Systems; International Journal of Information Security and Privacy; Knowledge-Based Systems; Machine Learning with Applications; Mathematics; Micromachines; Pattern Recognition; Pattern Recognition Letters; Plant Phenomics; PLOS One; Sensors; Statistics and Computing; Statistics in Medicine; The Journal of Supercomputing*

## **Professional Societies**

---

- **2018 – Present:** INFORMS, Membership

## **Open-Source R Packages**

---

- **biclustermd:** [Access Link](#)
- **decp:** [Access Link](#)
- **uniswapper:** [Access Link](#)