

### Personal Information

Name Ly Ly Trieu Thi  
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### Research Interests

My research interests are in the areas of machine learning and artificial intelligence, with a specific focus on explainable artificial intelligence and its applications such as transparency and fairness of AI systems, trustworthy AI, agriculture, business, finance, healthcare, and cybersecurity.

### Education

- 2019–2025 **PhD Student**, *CS, New Mexico State University, the United States.*
- Research Topic: Explainable AI, Logic Programming, Machine Learning.
  - Funded by:
    - AI Scholarship from New Mexico Consortium, 2024-2025 (<https://newmexicoconsortium.org/nmaic-announces-first-cohort-ai-scholars/>).
    - Harold James Family Trust (<https://www.jamesfamilytrust.com/>).
  - Dissertation Title: Explanations in Answer Set Programming and Machine Learning.
  - Successfully Defended on October 17<sup>th</sup>, 2025.
- 2017–2018 **Exchange Student**, *EECS, Kanazawa University, Japan.*
- Research Topic: Image Processing, General Object Recognition.
  - Funded by JASSO Scholarship.
- 2013–2018 **Bachelor of Science**, *CS, Danang University of Science and Technology, Vietnam.*
- Degree Classification: Excellent.
  - Thesis: Feature Extraction Methods In News Document Classification Problem.

### Work Experience

- 2019–present **Research Assistant**, *Computer Science Department, New Mexico State University.*
- Primary Research Topic: Explainable AI, Logic Programming, Machine Learning.
  - Secondary Research Topic: Machine Learning and Data Mining in Agriculture.
- Instructor**, *Computer Science Department, New Mexico State University.*
- Summer 2025: Python Programming I (grad/undergrad) (primary instructor).
  - Summer 2023: Python Programming I (grad/undergrad) (primary instructor), Java Programming (grad/undergrad) (secondary instructor).
  - Spring 2023: Python Programming I (grad/undergrad) (primary instructor).
  - Summer 2022: Python Programming I (grad/undergrad) (primary instructor), Java Programming (grad/undergrad) (secondary instructor).
- Guest Lecturer**, *Computer Science Department, New Mexico State University.*
- Spring 2025: Artificial Intelligence and Arid Land Agriculture (CS 579) (grad level).

- 04/2018–**Research Engineer**, *School of Information System, Singapore Management University*.  
12/2018
  - Research Topic: Recommendation System.
- 05/2017–**Android Developer Internship**, Agility, Danang City, Vietnam.  
08/2017
  - Projects: Android Application for Notes, Android Application for Image Recognition.
- 12/2016–**Web Developer Internship**, MGM Technology Partners, Danang City, Vietnam.  
01/2017
  - Project: Design and Create a Website for Booking a Vacation.

## Publications

### Google Scholar

- Link: <https://scholar.google.com/citations?user=zIE9N-kAAAAJ&sortby=pubdate>

### Articles in Refereed Conferences

- [1] **Ly Ly Trieu** (2025). “Research summary: Explainable artificial intelligence in answer set programming and machine learning.” To appear in the Proceeding of the 21st Doctoral Consortium (DC) on Logic Programming, 2025.
- [2] **Ly Ly Trieu** and Tran Cao Son (2025). “xDNN(ASP): Explanation Generation System for Deep Neural Networks powered by Answer Set Programming.” To appear in the Proceeding of the 41st International Conference on Logic Programming (ICLP), 2025.
- [3] Mario Alviano, **Ly Ly Trieu**, Tran Cao Son, and Marcello Balduccini (2023). “Explanations for Answer Set Programming.” *Electronic Proceedings in Theoretical Computer Science*, Volume 385, pp. 27-40.
- [4] Mario Alviano, **Ly Ly Trieu**, Tran Cao Son, and Marcello Balduccini (2023). “Advancements in xASP, an XAI System for Answer Set Programming.” In *Proceedings of the 38th Italian Conference on Computational Logic*, Volume 3428. **Best Paper Award**.
- [5] **Ly Ly Trieu**, Tran Cao Son, Marcello Balduccini (2022). “xASP: An Explanation Generation System for Answer Set Programming.” In *International Conference on Logic Programming and Nonmonotonic Reasoning*, pp. 363–369. Cham: Springer.
- [6] **Ly Ly Trieu**, Tran Cao Son, Marcello Balduccini (2021). “exp(ASPc) : Explaining ASP Programs with Choice Atoms and Constraint Rules.” *Electronic Proceedings in Theoretical Computer Science*, Volume 345, pp. 155–161.
- [7] **Ly Ly Trieu**, Tran Cao Son, Enrico Pontelli, Marcello Balduccini (2021). “Generating explanations for answer set programming applications.” *Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications III*, 11746, International Society for Optics and Photonics, SPIE, pp. 390–403.
- [8] Botros N. Hanna, **Ly Ly Thi Trieu**, Tran Cao Son, Nam T. Dinh (2020). “An Application of ASP in Nuclear Engineering: Explaining the Three Mile Island Nuclear Accident Scenario.” *Theory and Practice of Logic Programming*, Volume 20, pp. 926–941.
- [9] **Trieu Thi Ly Ly**, Le Thi Ha Binh, Bui Thanh Son, Ninh Khanh Duy (2017). “A Solution for English Transliteration to Vietnamese.” *The 10th National Conference on Fundamental and Applied IT Research (FAIR) conference*, Danang, Vietnam, August, 2017, pp. 502–510.
- [10] **Trieu Thi Ly Ly**, Nguyen Van Quy, Ninh Khanh Duy, Huynh Huu Hung, Dang Minh Thang (2017). “Representing Context in Abbreviation Expansion using Machine Learning Approach.” *The 10th National Conference on Fundamental and Applied IT Research (FAIR) conference*, Danang, Vietnam, August, 2017, pp. 816–822.

### Journal Articles

- [1] **Ly Ly Trieu**, Derek Bailey, Huiping Cao, Tran Cao Son, Colin Tobin and Cory Oltjen (2025). “Detecting Frequent Sequential Patterns between Weather and Cattle Behavior using Data Mining.” *Frontiers in Animal Science*, Volume 6, 1640550.

- [2] **Ly Ly Trieu**, Derek W. Bailey, Huiping Cao, Tran Cao Son, Justin Macor, Mark G. Trotter, Lauren O'Connor, and Colin T. Tobin (2025). "Potential of Accelerometers to Remotely Early Detect Bovine Ephemeral Fever in Cattle Using Pattern Mining." *Translational Animal Science*, Volume 9, txaf008.
- [3] Barto, Amadeus O., Derek W. Bailey, **Ly Ly Trieu**, Pippa Pryor, Kieren D. McCosker, and Santiago Utsumi (2025). "Monitoring Behavior and Welfare of Cattle in Response to Summer Weather in an Arizona Rangeland Pasture Using a Commercial Rumen Bolus." *Animals*, Volume 15, no. 10: 1448.
- [4] Mario Alviano, **Ly Ly Trieu**, Tran Cao Son, Marcello Balduccini (2024). "The XAI system for answer set programming xASP2." *Journal of Logic and Computation*, Volume 34, Issue 8, pp. 1500–1525.
- [5] Colin Tobin, Derek Bailey, Caroline Wade, **Ly Ly Trieu**, Kelsey Nelson, Cory Oltjen, Huiping Cao, Tran Cao Son, Victor Flores, Briza Castro, Jennifer Hernandez Gifford, Mark Trotter, David Kramar (2024). "Evaluation of experimental error in accelerometer monitoring: Variation among individual animals versus variation among devices." *Smart Agricultural Technology*, Volume 7, 100432.
- [6] **Ly Ly Trieu**, Derek W. Bailey, Huiping Cao, Tran Cao Son, David R. Scobie, Mark G. Trotter, David E. Hume, B. Lee Sutherland, and Colin T. Tobin (2022). "Potential of accelerometers and GPS tracking to remotely detect perennial ryegrass staggers in sheep." *Smart Agricultural Technology*, Volume 2, 100040.

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## Oral & Poster Presentations

- [1] The 21st Doctoral Consortium on Logic Programming (Remote Presentation): "Research summary: Explainable artificial intelligence in answer set programming and machine learning", 2025.
- [2] Graduate Research and Arts Symposium at New Mexico State University (Poster Presentation): "Explanations for Answer Set Programming", 2023.
- [3] American Society of Animal Science Annual Meeting (Oral Presentation): "Potential of Accelerometers to Remotely Detect Bovine Ephemeral Fever in Heifers using Pattern Recognition", 2023.
- [4] The 28th Joint University of Texas at El Paso and New Mexico State University on Mathematics, Computer Science, and Computational Sciences (Oral Presentation): "Explanation Generation Systems for Answer Set Programming", 2022.
- [5] Society for Range Management Annual Meeting (Poster Presentation): "Detection of animal illness using machine learning", 2022.
- [6] The 37th International Conference on Logic Programming (ICLP) (Remote Presentation): "exp(ASPc) : Explaining ASP Programs with Choice Atoms and Constraint Rules", 2021.
- [7] SPIE Defense and Commercial Sensing (Remote Presentation): "Generating explanations for answer set programming applications", 2021.
- [8] Kanazawa University (Poster Presentation): "Survey of General Object Recognition", 2018.

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## Awards & Honors

- 2024 – AI Scholarship from New Mexico Consortium
  - ACES Restricted Scholarship
- 2023 – ACES Restricted Scholarship
  - CILC 2023 Best Paper Award
- 2022 – EPSCOR CAO from NMSU Scholarship
  - GRAD Success Scholarship

- 2020 – GRAD Success Scholarship
- SJU from NMSU Scholarship
- 2018 – MEXT Japanese Government Scholarship (declined).
- 2017 – JASSO Scholarship for Exchange Students in Kanazawa University, Japan.
- Scholarship for Summer Camp in Kogakuin University, Japan.
- 2016 – Microsoft YouthSpark Scholarship.
- Certificate of Participation the 2rd International Summer School, awarded by Duy Tan University.
- 2014 – Certificate of Merit for Excellent Achievement in Study, awarded by Danang University of Science and Technology, Viet Nam.
- ODON VALLET scholarship.
- 2013 – Consolation prize in solving math on hand-held calculator contest, National level, Vietnam.
- First prize in solving math on hand-held calculator contest, Municipal level, Da Nang, Vietnam.
- Second prize in mathematical contest for 12th class, Municipal level, Da Nang, Vietnam.
- 2012 – First prize, mathematical contest for 11th class, Municipal level, Da Nang, Vietnam.
- Second prize in solving math on hand-held calculator contest, Municipal level, Da Nang, Vietnam.
- ODON VALLET scholarship.
- 2011 – First prize, mathematical contest for 10th class, Municipal level, Da Nang, Vietnam.
- 2010 – First prize, mathematical contest for 9th class, Municipal level, Quang Nam, Vietnam.

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## Social Activities

- 2016 – Certificate of Participation and Contribution actively in the campaign Summer Student Volunteer, awarded by Danang University of Science and Technology, Viet Nam.
- 2010 – Certificate of Merit for Excellent Achievement in Youth Union Activities, Teenagers Movement of Quang Nam Province 05 years, awarded by Quang Nam Province.
- 2010 – Certificate of Merit for Excellent Achievement in contributing the socioeconomic development of Quang Nam Province within 05 years, awarded by Quang Nam Province.

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## References

1. Prof. Dr. Son Tran, Ph.D. Advisor.  
Current Position: Full Professor and Department Head of Computer Science at New Mexico State University.  
Email: stran@nmsu.edu
2. Prof. Dr. Huiping Cao, Collaborator.  
Current Position: Full Professor of Computer Science at New Mexico State University.  
Email: hcao@nmsu.edu
3. Prof. Dr. Derek Bailey, Collaborator.  
Current Position: Emeritus Professor at New Mexico State University and Director of Research and Outreach at Deep Well Ranch.  
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