Justin Turnau

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Education

ARIZONA STATE UNIVERSITY Tempe, AZ
PhD, Computer Science. May 2028
Relevant Coursework: CSE 574 Planning/Learning Methods AI

UNIVERSITY OF CINCINNATI Cincinnati, OH
B.S., Computer Science. GPA: 3.619 / 4.00 May 2024
Relevant Coursework: Machine Learning (5137), Deep Learning (5173), Intelligent Data Analysis (5152), AI Principles and Applications (4033), Design and Analysis of Algorithms (4071)

Experience

ARIZONA STATE UNIVERSITY Tempe, AZ
Research Assistant August 2024 – Present

- Conduct a comprehensive literature review and write sections for a survey on techniques which bridge the gap between simulation and reality
- Contribute to multi-agent reinforcement learning research focused on bridging the gap between simulation and reality for traffic signal control
- Conduct a literature review for multi-agent reinforcement learning techniques and open challenges to generate novel ideas

ARIZONA STATE UNIVERSITY Tempe, AZ
Teaching Assistant August 2024 – Present

- Assist in teaching a graduate-level data mining course with content on classification, model selection / hyperparameter tuning, data clustering, and dimensionality reduction
- Hold office hours to support students in understanding course materials and completing assignments
- Taught lecture on deep neural networks and the transformer architecture

UNIVERSITY OF CINCINNATI Cincinnati, OH
Undergraduate Researcher January 2022 – May 2024

- Conducted research focused on advancing the field of explainable machine learning through the development of provenance-based explanations
- Critically analyzed and implemented various machine learning explanation methods, delving into their mathematical foundations to inform the development of novel explanation methods
- Applied our novel methods to classic supervised learning models, enhancing model explainability
- Modified an existing system to transform machine learning queries into Datalog queries that also capture provenance and compute explanations

Publications & Presentations

IEEE ICDEW Anaheim, CA
Provenance-Based Explanations for Machine Learning (ML) Models April 2023
Turnau, J., Akwari, N., Lee, S., & Rajput, D. (2023). Provenance-based Explanations for Machine Learning (ML) Models. In 2023 IEEE 39th International Conference on Data Engineering Workshops (ICDEW) (pp. 40-43).

Paper presented at International Workshop on Databases and Machine Learning (DBML 2023), Anaheim, CA.

Skills

Technical: Python, PyTorch, TensorFlow, Keras, Scikit Learn, C++, Matlab, Prolog, Datalog, SQL
Language: Mandarin Chinese (beginner)