Justin Payan

University of Massachusetts Amherst
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justinpayan.github.io

Education

2018-	Ph.D.	University of Massachusetts Amherst Temporary Advisor: Yair Zick
2015-2018	M.S.	University of Georgia Advisor: Frederick Maier
2013-2017	B.S./B.A.	University of Georgia Foundation Fellowship (UGA's top academic scholarship, <2% acceptance)

Research

Refereed Publications

1. Ananya Gupta*, Eric Johnson*, Justin Payan, Aditya Roy, Ari Kobren, Swetasudha Panda, Michael Wick, and Jean-Baptiste Tristan. Online Post-Processing In Rankings For Fair Utility Maximization. In International Conference on Web Search and Data Mining (WSDM), 2021.
2. Justin Payan and Andrew McCallum. Document Representations Using Fine-Grained Topics. In Sets & Partitions Workshop at NeurIPS, 2019.
3. Anjana G. Rajakumar, K.R. Sheetal Kumar, Justin Payan, and M.S. Mohan Kumar. Artificial Neural Network Based Water Network State Estimation Tool for Bangalore Inflow System. In International Symposium on Lowland Technology, 2016.

M.S. Thesis

1. Justin Payan. *Keyphrase Extraction from Scientific Literature Using Joint Geometric Graph Embedding Matching*. 2018.

Research Experience

University of Massachusetts Amherst Sept. 2018 – present
Advised by Yair Zick, prev. Andrew McCallum Amherst, MA

- Developing new algorithms and results for fair allocation of indivisible items with Yair Zick
- Applying fair allocation to reviewer assignment
- Worked on document representation, citation recommendation, and reviewer assignment with Andrew McCallum

Institute for Artificial Intelligence Sept. 2015 – Aug. 2018
Advised by Frederick Maier University of Georgia, Athens, GA

- Designed and implemented a keyphrase extraction algorithm based on an inexact graph matching algorithm

Robert Bosch Centre for Cyber-Physical Systems June 2015 – Aug. 2015
Advised by M.S. Mohan Kumar Indian Institute of Science, Bangalore, India

- Predicted pressure in water distribution networks using artificial neural networks
- Investigated SVM, ANN, and random forest tool for locating leaks in water distribution networks

Industry Experience

Research Intern at Amazon Alexa May 2020 – Aug. 2020

- Explored the efficacy of generative replay for continual learning in a privacy-aware setting

Software Engineer at MicroFocus Vertica May 2016 – July 2016, June 2017 – June 2018

- Implemented distributed machine learning algorithms in SQL and C++, including k-means++
- Designed, built, and maintained data preprocessing functions, such as one-hot encoding, normalization, and missing value imputation

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Teaching

Teaching Assistant

- CMPSCI 383, Intro to AI Sept. 2018 – Dec. 2018
- CMPSCI 121, Intro to Problem Solving with Computers Sept. 2020 – Dec. 2020

Teaching Associate

- CMPSCI 590N, Intro to Numerical Computing with Python Sept. 2020 – Oct. 2020

Relevant Coursework: Advanced Algorithms, Machine Learning, NLP, Probabilistic Graphical Models
Programming: Python, C++, Java
Packages: PyTorch, Numpy, Scikit-Learn
Research Interests: Algorithmic Fairness, Combinatorial Optimization