

Piyush Chawla

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Education

TOEFL: 116 (R:29, L:30, W:29, S:28)

The Ohio State University, Columbus OH

PhD Computer Science (2nd Year)

GPA: 3.97/4.0

Aug 2018 - Present

Key Courses: CSE5525 (Natural Language Processing), CSE5526 (Neural Networks), CSE5523 (Machine Learning), CEE5243 (Data Mining), CSE5544 (Data Visualization), CSE5522 (Adv. Artificial Intelligence), CSE5542 (Graphics)

Birla Institute of Technology & Science - Pilani, India

Bachelor of Engineering in Computer Science Engineering

GPA: 9.70/10.0

Aug 2014-July 2018

Publications/Ongoing Papers

1. **Piyush Chawla**, S. Hazarika, Han-Wei Shen "Neural Network Assisted 2D Projection for Embeddings"
2. **Piyush Chawla**, S. Hazarika, Han-Wei Shen "How Robust Is Your Sentiment Classifier? Visualizing ConvNet For Text" Under Review.
3. D. Esteves, A. J. Reddy, **Piyush Chawla** and Jens Lehmann "Belittling the Source: Trustworthiness Indicators to Obfuscate Fake News on the Web." FEVER/EMNLP 2018
4. **Piyush Chawla**, D. Esteves, K. Pujar, Jens Lehmann "SimpleLSTM: A Deep-Learning Approach to Simple-Claims Classification" EPIA-2019.
5. **Piyush Chawla** "Natural Language Incorporation in Knowledge Graph Completion." UNI-BONN 2018.
6. D. Esteves, **Piyush Chawla**, A. Fischer, Jens Lehmann "Boosting Named Entity Recognition Architectures using Images and News." Under Review.

Current Projects

Zero-shot learning for Knowledge Graph (KG) completion (Python, Pytorch, Keras)

Fall 2019

- Traditional KG completion algorithms fail to make predictions on out-of-vocabulary (unseen) entities.
- Working on an approach to leverage the natural language information in KG triples for zero-shot predictions.

NLP in Health Care (Python, Pytorch)

Fall 2019

- Clinical notes constitute the "unstructured" data in Electronic Health Records. This data is often omitted by ML experts due to their non-homogenous nature. However, they contain important and useful information.
- We aim to combine the structured and unstructured data in EHR for tasks like "30-day readmission" prediction.

Understanding Convolutional Neural Networks for text (D3, Javascript, Python)

Fall 2019

- ConvNet visualization has been explored for computer vision. However, understanding this class of architecture still remains a mystery in the context of natural language (text) applications.
- An approach to visualize the contribution (+ve/-ve) of each word in a sentence towards the predicted label.

Experience

Research Assistant, Smart Data Analytics, Bonn-Germany

Dec 2017 - Feb 2019

Bachelor's Thesis: Link prediction in Multi-Lingual Knowledge Graphs (Python, Tensorflow)

- Used interlanguage links (e.g. English-German) in DBpedia knowledge graph to improve KG completion acc.
- Integrated natural language information in Knowledge Graph triples to the TransE algorithm (NLTransE).

Research Intern, University of Bonn

May 2017 - Jul 2017

Project: Knowledge graph completion using latent vector models (Python, Tensorflow, Spark)

- Explored different latent vector models for KG triples prediction. E.g. TransE, TransR, TransH, DistMult etc.
- Conducted large-scale experiments on DBpedia Knowledge Base to train KG completion models.

Recent Academic Achievements

- University Fellowship, The Ohio State University **2018 -2019**
- Bachelor's Thesis research funding, University of Bonn & BITS Pilani **2017-2018**
- WISE Scholarship, DAAD (German Academic Exchange Service) **2017**

Technical Skills

Programming (Python, C, C++, Python, JavaScript), **Libraries** (Pytorch, Keras, Tensorflow, SkLearn, Pandas)