DUSHYANTA DHYANI

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AREAS OF INTEREST

• Information Extraction • Low Resource NLP • Weak/Semi Supervision in ML • Scalable Deep Learning

EDUCATION

M.S. CSE (Thesis Track) : *The Ohio State University, Columbus, Ohio.* **GPA:** 3.795 Aug 2016 - May 2018
Courses : Machine Learning, Speech and Language Processing, Computational Linguistics, Natural Language Question Answering, Text Analytics.

B.Tech IT : *National Institute of Technology, Kurukshetra, India.* **GPA** : 8.9 July 2010 - June 2014

PUBLICATION/TUTORIALS

Boosting Supervised Neural Relation Extraction with Distant Supervision May 2018
Master's Thesis *Adviser: Prof. Huan Sun Committee Member: Prof. Alan Ritter*

Tutorial - A Convolutional Encoder Model for Neural Machine Translation Dec 2017
NIPS Workshop - Learn How To Code A Paper With State Of The Art Frameworks

OhioState at IJCNLP-2017 Task 4: Exploring Neural Architectures for Multilingual Customer Feedback Analysis Dec 2017
Proceedings of the 8th International Joint Conference on Natural Language Processing, Shared Tasks

OhioState at SemEval-2018 Task 7: Exploiting Data Augmentation for Relation Classification in Scientific Papers using Piecewise Convolutional Neural Networks Feb 2018
To Appear in Proceedings of International Workshop on Semantic Evaluation (SemEval-2018)

EXPERIENCE

Applied Scientist, ***Amazon Books*** Oct 2019 - Present

Working on Deep-Learning based Text Classification models for content moderation

Software Development Engineer, ***Alexa Brain*** Nov 2018 - Present

- Worked on migrating existing inference engine for Alexa's 3rd party domain classification service from a C++ based runtime library to a PyTorch-only backend.
- Investigated graph neural networks for learning richer user-utterance representation for domain classification.
- Investigated neural architectures for large scale template based domain classification.
- Automated the annotation workflow for Alexa's 3rd party domain classification model training.
- Designed and lead the implementation of a serverless architecture based service for automated and periodic data collection and model release

Software Development Engineer, ***Amazon Comprehend*** July 2018 - Nov 2018

As part of the attributes extraction project, I conducted experiments for relation extraction, laying the foundation for mxnet-gluon based relation extraction library.

Graduate Research Assistant, ***The Ohio State University*** Aug 2017 - May 2018
Adviser : Prof. Huan Sun

Explored strategies including but not limited to knowledge distillation and domain adversarial training to use noisy, distant supervision data to boost the performance of sentential relation extractors trained on manually labeled data only.

Software Engineering Intern, ***Amazon Comprehend*** May 2017 - Aug 2017

Laid down the foundation for the custom classification service as part of the Comprehend suite:

- Experimented with several neural architectures for generalized text classification
- Created an end to end Serverless application using various AWS services like Step Functions, Lambda, Elastic Container Service, etc.

Graduate Teaching Assistant, *Introduction to Computer Programming in Java* Spring 2016

Responsibilities included:
• Delivering lectures. • Conducting labs and office hours. • Grading assignments and projects.

Research Assistant, *Ubiquitous Knowledge Processing Lab, TU Darmstadt, Germany* Jan - June 2015

Adviser : Prof. Iryna Gurevych, *Project* : Automatic Timeline Generation of News Events

Worked on events and participants extraction from News Articles. Used a CRF Classifier along with several NLP based features (syntactic, semantic, word embeddings, etc.) to achieve the following F-1 scores :

Events • ECB+ Corpus - 73.02 % • TimeBank Corpus - 80.78% . ***Participants*** • ECB+ Corpus - 56.51%

Research Associate *Precog Research Group, IIIT-Delhi, India* July 2015 - April 2016

Software Engineer *Search Team*, Infoedge India Pvt. Ltd. June-Dec 2014

Software Engineering Intern, *Samsung Research*, New Delhi, India June-July 2013

PROJECTS

Knowledge Distillation for training Neural Architectures 2018

Tensorflow implementation of "Distilling the Knowledge in a Neural Network". The soft targets from the Teacher model for training the Student model are evaluated in an on-line manner

Stance Detection (Fake News Challenge), Team Name : OSUfnc2017, **Rank**: 7/50 2017

We worked on creating a Random forest based Hierarchical classifier for detecting stance of a (body) text with respect to a news headline. We used a composition of statistical features (word co-occurrence based features & enriched them using semantic ontologies like Wordnet) & embedding based features (spatial similarity measures).

BioNER (Research Project), Advisor : Prof. Huan Sun 2016

Worked on analyzing the performance of various existing tools on Community Health QA Dataset for the task of Named Entity Recognition in biomedical text with discontiguous entities.

Civic Improvement Request Classification Challenge May 2016

As part of the **Living Progress - CrowdAnalytics - Haven OnDemand Prototype** challenge on *Topcoder*, the HP Haven on Demand API was used to create a hierarchical classifier for the task of classifying user requests for civic improvements into predefined categories. The model was ranked *2nd*.

Open Source Contribution 2015

Integrated the **Geodesic Object Proposals** tool into CloudCV's **Object Proposals** library.