Aditya Karanam

Austin, Texas

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EDUCATION

University of Texas at Austin — Austin, TX
Ph.D. in Information Systems — *2016 – 2020(expected)*

Birla Institute of Technology and Sciences — Hyderabad, India
M.Sc.(Tech.) in Information Systems — *2010 – 2014*

PROGRAMMING SKILLS

- **Languages**: R, Python, SQL, C, Java, MATLAB

WORKING PAPERS: NATURAL LANGUAGE PROCESSING

- **Entity Recognition in Noisy User Generated Content**
  - **Data**: Mobile app version release notes in iOS App Store
  - **Word Embeddings**: Domain specific word vectors are obtained using 'Gensim' package in Python based on Skip gram with negative sampling.
  - **Neural Model**: A hierarchical model is built using a BiLSTM and a BiLSTM-CRF for entity recognition. The model is parameterized over character embeddings, word embeddings, and Parts of Speech one hot vectors for batch training in 'Tensorflow' in Python. The optimal dropout rate and other hyper-parameters of the model are obtained through cross validation.
  - **Results**: We obtained an improvement of 4% over the state of the art models.

- **Adversarial Networks for Domain Adaptation in Named Entity Recognition(NER)**
  - **Data**: Data is obtained from two closely related domains- News Wire and Broadcast News. However, training labels are available only for News Wire.
  - **Adversarial Network**: The network architecture consists of three neural layers- a BiLSTM for feature representation, a BiLSTM-CRF for Entity tagging, and a CNN for domain classification. The right set of network layers and hyper-parameters are obtained through cross validation. The model is built using 'Tensorflow' in Python.
  - **Training**: To obtain better prediction over unlabeled domain, we try to learn a feature space that is independent across domains but is discriminative for the task of NER. This is achieved by minimizing the loss over entity tagging layer and maximizing the loss over domain classification layer in the training phase.
  - **Results**: This work is still in progress. As of now, we obtained an improvement of $\sim 1\%$ over the state of the art models.

WORKING PAPERS: ECONOMICS OF INFORMATION SYSTEMS

- **Designing Apps for Visibility and Sharing: The Case of Mobile Apps**
  - **Econometric Analysis**: We provide insights for app developers on product features that are the most important drivers of the demand using instrument variable regressions, 2-way fixed effects, and clustered robust standard errors.

EXPERIENCE

Indian School of Business — Hyderabad, India
Research Associate — *2 years(July, 2014- July, 2016)*

Indian Statistical Institute — Kolkata, India
Research Fellow — *Summer 2013 and Spring, 2014*

RELEVANT COURSE WORK

- **CS**: NLP, Structural Models for NLP, Machine Learning, Algorithms
- **Economics**: Econometrics-I&II, Structural Econometrics, Game Theory, Empirical IO

CONFERENCE PRESENTATIONS

- **Statistical Challenges in E-Commerce Research, Amsterdam, 2018**: Designing Apps for Visibility and Sharing
- **Conference On Digital Economy, Delhi, India, 2017**: Mobile App Features and Performance