SRINIVAS RAVISHANKAR ⋄ (412)-509-7034 ⋄ srini.shank@gmail.com

EDUCATION

Carnegie Mellon University, Pittsburgh *August 2018 - Dec 2019*
Master of Science in Machine Learning GPA: 4.00/4.33

RV College of Engineering, Bangalore *August 2014 - May 2018*
Bachelor of Engineering in Computer Science. GPA: 9.65/10.0

EXPERIENCE

IBM Research, New York Feb 2020 - Present
Research Software Engineer

- Neuro-Symbolic Question Answering: Developing a more robust approach to the Natural Language Understanding problem in contrast to the resource-intensive syntax-matching reliant end-to-end neural approach in current literature. Working on converting natural language into an intermediate form that has the expressivity of formal logic, and leveraging symbolic reasoning systems on this representation to answer questions.
- Working on unsupervised event detection and schema creation from multimedia sources, as part of a submission to DARPA's KAIROS project. Current events will be categorized using the generated schema to predict likelihood of events of interest occurring in the future.

Carnegie Mellon University, Pittsburgh Jan - Dec, 2019
Research Assistant - Neural Dynamics of Natural Language Comprehension

- Designed a pipeline to study temporal and spatial characterestics of information (word form, semantics, syntax) encoded in different brain regions using noisy time-series data from fMRI and MEG imaging modalities:
- Predictive modeling of subjects' brain activity using BERT embeddings, POS tags of the stimulus, etc.
- Consistent cross-subject predictive modeling of fMRI brain activity from noisy single-trial MEG activity.
- Novel result in domain achieved for naturalistic data (non-artificial) by the above pipeline. Can derive a spatio-temporal map of neural dynamics related to a given feature space of interest. Paper in draft.

Goldman Sachs, Bangalore Jan - Apr, 2018
Tech Intern - Human Capital Management Division

- Implemented a full-stack application to digitize physical documents and provide a production-level framework for document generation with automated workflow using Java, Node JS, and E-tasks (internal workflow tool).
- Employee-facing tool for employment verification, offer letter generation etc. being used by 23k+ employees in the firm, and by 30+ admins in the Human Capital Management division.

Indian Institute of Science, Bangalore May - July, 2017
Research Intern - Machine and Language Learning Lab

- Modeling multi-relational structured data for downstream question answering and information retrieval tasks.
- Scaled up existing KG embedding algorithms from benchmark dataset FB15k (15k entities and 500k triples) to Freebase (500M entities and 3B triples).
- Achieved near-linear speedup (53x) in C++ using HogWild! parallellized SGD on a 56-core node.
- Identified and empirically demonstrated a major limitation of existing benchmark datasets, showed that then-SOTA algorithms were exploiting these limitations and could not generalize well.
- Developed a method that addressed this. Paper published at the AKBC workshop at NIPS 2017.

PUBLICATIONS

- Revisiting Simple Neural Networks for Learning Representations of Knowledge Graphs, AKBC workshop, NIPS 2017

SKILLS

Languages : Python, C++, Java, JS | **Tools/Libraries** : PyTorch, TensorFlow, Sklearn