Neha Nayak Kennard

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Education

UMass Amherst — Amherst, MA
PhD in Computer Science — *Aug. 2018 – present*

Stanford University — Stanford, CA
Master of Science in Computer Science; GPA: 3.74 — *Aug. 2013 – Jan. 2016*

Birla Institute of Technology and Science, Pilani — Goa, India
Bachelor of Engineering in Computer Science; GPA: 8.87 — *Aug. 2009 – July. 2013*

Industry Experience

Facebook — Redmond, WA
Research Intern — *May 2019 - August 2019*

Question Answering Using Pytorch. Worked on domain adaptation for question answering. Participated in data collection. Carried out extensive evaluation.

Google — Mountain View, CA
Software Engineer — *May 2017 - June 2018*

Natural Language Generation Using Java and C++ on the Google Assistant

Google Research — Mountain View, CA
Software Engineer — *Jan 2016 - May 2017*

Deep Learning for Dialogue Worked on deep learning techniques for Natural Language Generation in dialogue. Published in Interspeech 2017. Implemented models in Python using Tensorflow.

Microsoft — Redmond, WA
International Project Engineering Intern — *Jun 2014 - Sep 2014*

Internationalization in MS Office Scaling NLP features in MS Office to apply to 6 additional human languages. Contributed to a C# code base.

Publications

To Plan or Not to Plan? Sequence to sequence generation for language generation in dialogue systems
Neha Nayak, Dilek Hakkani-Tur, Marilyn Walker, Larry Heck. INTERSPEECH 2017.

Combining Natural Logic and Shallow Reasoning for Question Answering
Gabor Angeli, Neha Nayak, Chris Manning. Association for Computational Linguistics (ACL) 2016.

Evaluating Word Embeddings Using a Representative Suite of Practical Tasks
Neha Nayak, Gabor Angeli, Chris Manning. First Workshop on Evaluating Vector Space Representations for NLP (RepEval). ACL 2016.

Research Experience

University of Massachusetts, Amherst — Amherst, MA
Graduate research projects supervised by Prof. Andrew McCallum — *Sep 2018 - present*

Coreference resolution: Examining out-of-domain performance of modern coreference resolution models, and developing mention representations that leverage whole-document context.

Taxonomy alignment: Using box embeddings to improve alignment of biomedical taxonomies. Implemented in PyTorch.

Stanford University — Stanford, CA
Graduate research projects supervised by Prof. Christopher Manning — *Jan 2015-Dec 2015*

Word vector evaluation (VecEval): Constructing a new evaluation benchmark for vector space models. Developed a fair evaluation setup using Keras. See www.veceval.com. Published in RepEval workshop (in ACL 2016).

Hypernymy in word embeddings: Demonstrated shortcomings in extending existing lexical semantics techniques applied to hypernymy; presented alternatives. Implemented in Lua using Torch.

Meronymy in Natural Logic: Applying monotonicity reasoning over geographical meronymy for logical inference. Constructed a binary relation over places using Freebase. Contributed to ACL 2016 paper.

Stanford University Stanford, CA

Class projects *Sep 2013 - Dec 2014*

Alignment in neural models for NLI: Applied monolingual alignment techniques from traditional RTE to a novel vector space model for entailment. Contributed to a MATLAB codebase.

Detecting non-subsective adjectives: Used simple classifiers to identify problematic adjectives for logical inference. Detected exceptional cases of adjectival modification. Implemented in Python and Java using scikit-learn and Stanford's CoreNLP.

Institute for Natural Language Processing, University of Stuttgart Stuttgart, Germany

Student researcher supervised by PD Dr. Sabine Schulte im Walde *May - July 2012, Jan - May 2013*

Classifying lexical relations in English: Undergraduate Thesis : Automatic Classification of Semantic Relation Pairs in English Using Pattern-based Corpus Co-occurrence. Implemented in Python.

Classifying lexical relations in German: Investigated the possible use of higher-order co-occurrences for distinguishing between antonymy, hypernymy and synonymy. Utilized WEKA.

Teaching

Stanford: Natural Language Processing (Graduate level course); Introduction to Probability for Computer Scientists (two quarters); Mathematical Foundations of Computing (four quarters); Design and Analysis of Algorithms

BITS: Computer Programming II, Discrete Structures for Computer Science, Theory of Computation

Outreach

Community Outreach Student Team Founding member.

Black Girls Code Assisted in teaching programming skills to girls aged 10-13, using Scratch, Python, and Raspberry Pi

SAILORS (Stanford AI Lab OutReach Summer) 2015 Developed curriculum and mentored 6 high school students to learn about Python and probability and produce a Naive Bayes classifier on emergency tweets in a two week program

CSSI (Computer Science Summer Institute) Interview coaching preparing rising freshmen for software internship interviews

UMass Amherst CS Women Treasurer of the graduate chapter of CS Women at UMass. The organization was awarded a Women for UMass grant towards travel expenses for graduate students.