Ansong Ni

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EDUCATION

Carnegie Mellon University-School of Computer Science, Pittsburgh, PA — Dec 2019

Master of Science, Computer Science | GPA: 4.11/4.33

Selected Coursework:
Machine Translation and Seq2Seq Models, Computational Semantics, Algo. for NLP,
Advanced Intro. to Machine Learning, Deep Reinforcement Learning

Nanjing University-Software Institute, Nanjing, China — Jun 2018

Bachelor of Engineering, Software Engineering | GPA: 4.41/5.0

Selected Coursework: Software Engineering, Data Mining, Parallel Computing, Advanced Algorithms

University of California at Berkeley, Berkeley, CA — Jan 2017 – May 2017

Semester Exchange | GPA: 3.68/4.0

Coursework: Machine Learning, Deep Learning, Computer Vision, Convex Optimization

RESEARCH EXPERIENCE

NeuLab, Language Technology Institute — Carnegie Mellon | Spring 2019

Research Associate | Advised by Prof. Graham Neubig

Research topic: What and how can we "teach" a model to understand human language through interactions.

- Worked on using active supervision from human to help improve the performance of a semantic parser trained from weak supervision. We studied multiple active learning heuristics and integrated them with a distributed, EM-style reinforcement training with a memory-augmented Seq2Seq model - Neural Symbolic Machines.
- Experiments on WikiSQL show that by annotating only 1.8% of examples, we improve the SOTA weakly-supervised baseline by 6.4%, achieving 79.0% which is only 1.3% away from the fully- supervised model.
- Publication:
  - A. Ni, P. Yin and G. Neubig, "Merging Weak and Active Supervision for Semantic Parsing" (AAAI'20)

Learning and Mining from Data Group (LAMDA) — Nanjing University | 2017-2018

Research Assistant | Advised by Prof. Ming Li

- Proposed methods to predict the failure of an continuous integration build using features extracted from the code and project history, further studied this task under an online learning setting with active learning
- Publication:
  - A. Ni and M. Li, "Cost-effective Build Outcome Prediction Using Cascaded Classifier" (MSR'17)
  - A. Ni and M. Li, "ACONA: Active Online Model Adaptation for Predicting Continuous Integration Build Failures" (ICSE'18) Poster Track

WORK EXPERIENCE

Microsoft Research Asia, Beijing, China — Jun 2017 – Dec 2017

Research Intern | Software Analytics Group | Mentor: Shi Han, Senior Researcher

Project "Auto Insight": Framework for automatic mining of insights from multi-dimensional data

- Proposed a method to solved the problem of estimating mutual information with often-limited sample size and across heterogeneous data types with a variety of ML/Stat techniques
- Implemented the method mentioned above and it is integrated into Microsoft Power BI and Excel

ACADEMIC EXPERIENCE

Data Augmentation for Code Generation — Carnegie Mellon | Fall 2018

- Proposed to use back-translation technique for the task of code generation, which aims to translate from natural language to Python code

Low-resource Machine Translation — Carnegie Mellon | Fall 2018

- Implemented a seq2seq machine translation model to translate from three low-resource languages to English, improved the translation quality of the model by pre-training on similar high-resource languages

Multi-task Learning via Contextual Parameter Generator — Carnegie Mellon | Fall 2018

- Explored a novel multi-task learning framework for deep models on the tasks of image style transfer (with CycleGAN) and machine translation (with Seq2Seq)

SKILLS

- Programming Languages: Proficient - Java, Python, C/C++; Intermediate - C#; Basic - Shell, MATLAB, F#
- Frameworks and Tools: Proficient - PyTorch; Intermediate - Tensorflow, Vim