KAUSHAL KUMAR MAURYA

cs18resch11003@iith.ac.in
+919441058374
https://www.linkedin.com/in/kaushal-kumar-maurya-73016773/

EXPERIENCE

Data Science Analyst, Ntwist(Finmee Technologies Pvt Ltd), CIE, IIIT H, Hyderabad, India

JULY 2017 - MARCH 2018

- Build simulator for a gas-plant using deep learning techniques. MLP & LSTM were used as basic models
- Used Deep Reinforcement Learning(DRL) to achieve optimal production for gas-plant
- DQN and Actor-Critic RL models were explored in depth
- More than 500+ experiments are performed for tuning hyper-parameters and to get the right models
- Keras and Tensorflow deep learning libraries are used in all implementations
- Other than machine learning many statistics based problems were solved like finding correlation and co-occurrence between two or more attributes on the large data set(2.1M)

ACADEMIC PROJECTS

Thesis: Machine Translation Evaluation

DEC 2015 - JUNE 2017

- Hard problem, since it relates to the unresolved problem of semantic equivalence
- Explored state-of-the-art of existing evaluation techniques and provide distribution of mapping across different metrics scores
- Adequacy as manual metric and BLEU, NIST, METEOR, TER & WER as automatic metrics were taken
- Used Python implementation of Pearson's and Kendall's tau correlation coefficient for statistical analysis
- Confidence of distributions was computed using student's t-distribution
- Moses, tercom and meteor.1.5 tools were used for automatic scores computation

Detecting In-line Mathematical Expression

SEP 2018 - NOV 2018

- Identification of complex mathematical structure, variable, operators, formula & notations within sentence
- Can be new search functionality in search engines and an efficient alternate of OCR(specifically for in-line exp.)
- Formulated problem as a supervised learning problem
- We applied and tested three models: CRF, naive Bayes, and MLP model
- We outperformed previous best(baseline reslut) by securing 97.63% f-measure score

Exact Question and Answering System

JAN 2019 - MAY 2019

- Overcomes the shortcomings of current search engines by providing the exact answer for the queries wherever is possible
- Data set is taken from Microsoft AI challenge-2018
- A two-step approach is adopted 1). Using DL models (MLP, CNN, LSTM & Attention) to find the best matching passage 2). Used NER and 'Answer Type' concepts to find the exact answer from selected passage.

Credit Scoring Model Using German Dataset

OCT 2016 - NOV 2016

- It is binary classification problem to identify the creditworthiness of applicants
- We took 6 different classification models and observe their behavior on 1000 records of German data set
- In our view 'Process Visualization' of best model is permutation problem which needs series of experiments and observations
- KNIME and WEKA analytics tools were used throughout for all experiments and analysis.

EDUCATION

- Research Scholar in CSE at Indian Institute of Technology Hyderabad (IITH), July 2018 - Present, 8.0/10 CGPA
- Masters [MTech], Artificial Intelligence(AI), University of Hyderabad, 2015 - 2017, 8.35/10 CGPA
- Bachelors [BTech], Computer Science(CS), UPTU, 2010 - 2014, 77.43 Percentage

RESEARCH INTEREST

Machine Learning, Deep Learning, Reinforcement Learning and Natural Language Processing

PUBLICATION

- Kaushal Kumar Maurya and Maunendra Sankar Desarkar. Learning to Distract: A Hierarchical Multi-Decoder Network for Automatic Generation of Long Distractors for Reading Comprehensions. Submitted to SIGIR 2020.
- Sreekanth Madisetty, Kaushal Kumar Maurya, Akiko Aizawa and Maunendra Sankar Desarkar. A Neural Approach for Detecting In line Mathematical Expressions from Scientific Documents. Revised version is submitted to Expert System Journal, 2020.
- Kaushal Kumar Maurya, Renjith P Ravindran, CH Ram Anirudh and Kavi Narayana Murthy. Machine Translation Evaluation: Manual Vs. Automatic - A Comparative Study. Published in AISC series of Springer, Jan 2020.

AWARDS & ACHIEVEMENTS

- 2014, 2015 and 2016 GATE qualified with 95+ percentile
- Secured 2nd place in University of Tokyo and IITH workshop at IIT Hyderabad in Sept-2018
- Participated Google India Hackathon at Hyderabad office in Oct-2018
- Received fully paid trip for a Hackathon in Google office Gurugram (Nov -2018) organized by BBC India and IITG
- Attended 3-days long (5-7 Jan) CoDS-COMAD 2020 conference in Hyderabad, India
- Received 2020 Suzuki Foundation Scholarship Grant. As a part of this award, I will be visiting Shizuoka University, Japan for a short research stay

POSITIONS

- Worked as Teaching Assistance(TA) for NLP (July'16 - Nov'16, Class of 20+ students) and Optimization Technique (Jan'17 April'17, Class of 55+ students) courses at SCIS, UOH
- Organizer of one-day workshop on 'Sara Translator and Recent Trends in NLP' (29th Oct'16)in SCIS, UOH
- Worked as TA for Algorithm (Jan'19 - April'19, Class of 120+ students) , Information Retrieval (July'19 - Nov'19, Class of 30+ students) and NLP (Jan'20-Present, Class of 45+ students) courses at IITH

SKILLS

- C, Linux, Python, Keras, Tensorflow, Pytorch, Git, Latex
- Proficient in Algorithms, Data Analysis, Text Analytics, NLP, ML, DL and RL