Abhishek Sharma

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Education

- **Indian Institute of Technology, Banaras Hindu University** — Varanasi, Uttar Pradesh
  Integrated Dual Degree (B.Tech, M.Tech) in Mathematics and Computing; CPI: 9.19 — *July 2016 – Present*
- **Ahlcon Public School** — Mayur Vihar, Delhi
  Class XII Board Examination; 97.20% — *2016*
- **Ahlcon Public School** — Mayur Vihar, Delhi
  Class X Board Examination; CGPA: 10.0 — *2014*

Achievements

- Awarded with a scholarship of Rs. 50,000 by the institute to attend EMNLP 2018.
- Secured All India Rank 1449 in JEE Advanced 2016 among 200,000 candidates.
- Secured All India Rank 308 in JEE Mains 2016 among 1.2 million candidates.
- Awarded with KVPY scholarship by Govt. of India for securing All India Rank 653 among 100,000 students.
- Awarded with NTS scholarship by Govt. of India for being in top 800 students from all over India.

Publications

- Abhishek Sharma, Ganesh Katrapati and Dipti Misra Sharma. IIT(BHU)–IIITH at CoNLL–SIGMORPHON 2018 Shared Task on Universal Morphological Reinflection. In *Proceedings of the CoNLL SIGMORPHON 2018 Shared Task: Universal Morphological Reinflection*, Brussels. Association for Computational Linguistics
  `http://aclweb.org/anthology/K18-3013`

Work experience

- **IBM Research** — May 2019 - August 2019
  Conversational Question Answering
  - Worked on ShARC, a conversational question answering task where the query posed by the user might be underspecified and the dialogue agent has to ask the user follow up questions in order to answer the question.
  - Used BERT based architectures and beat the current state of the art method.
- **IIIT Hyderabad** — May 2018 - July 2018
  Morphological Inflection
  - Participated in Task 1 of CoNLL–SIGMORPHON 2018 Shared Task: Universal Morphological Reinflection.
  - Designed a novel neural network architecture - LSTM based Sequence to Sequence model with multiple encoders and Pointer Generator network for the task.
  - Our best performing system stood 4th among 28 systems, 3rd among 23 systems and 4th among 23 systems for the low, medium and high resource setting respectively.

Projects

- **Reinforcement Learning in Non-stationary environments** — Stream Project
  Supervisor: Dr. K. Lakshmanan, IIT (BHU) Varanasi — *Aug 2018 - April 2019*
  - Proposed an algorithm UCCRL-KD with restarts and gave its regret bounds for non stationary environment with continuous state space setting.
  - Additonally developed an algorithm based on learning and maintaining multiple partial models of the environments.
- **Hypernym Discovery** — Independent Project
  Supervisor: Dr. A. K. Singh, IIT (BHU) Varanasi — *Oct 2017 - Jan 2018*
  - Participated in Shared Task 9: Hypernym Discovery of SemEval-2018.
  - Submitted system based on iterative extraction approach in *Probase: A Probabilistic Taxonomy for Text Understanding* beat the baseline models in most of the subtasks.
  - Implemented and experimented with the approach of specifically learning word embeddings for hypernym discovery mentioned in *Learning Term Embeddings for Hypernymy Identification.*
- **Automatic Essay Grader** — Independent Project
  Supervisor: Dr. A. K. Singh, IIT (BHU) Varanasi — *Aug 2017 - Oct 2017*
  - Worked on the task of building system which could automatically grade essays.
  - Implemented LSTM based neural network architecture based on the proposed model in *Automatic Text Scoring Using Neural Networks.*

Programming Skills

- **Languages**: Python, Java, C, C++
- **Technologies**: PyTorch, AllenNLP, scikit-learn, Git, Latex, Linux
- **Areas of Interest**: Natural Language Processing, Reinfocement Learning, Deep Learning

Extra curricular activities

- **Club of Programmers**: Joint Secretary of Club of Programmers, IIT (BHU) Varanasi for the session 2018-19. Responsible for organising events, workshops, competitions and fostering coding culture in the institute.
- **Optimal Bidding**: Stood 6th in Optimal Bidding, a stochastic dynamic optimisation event held in Inter IIT Tech Meet 2018. Designed a neural network architecture based on the data to make optimal bid. Trained it using Gradient Descent. Exposure: Time series analysis, ARIMA time series model, Gradient Descent.
- **Codefest Linguipedia**: Stood 1st among 560 participants in Codefest Linguipedia, a Natural Language Processing (NLP) online hackathon on sentimental analysis of tweets towards products.