

# ABHISHEK SHARMA

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## EDUCATION

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<b>Indian Institute of Technology (BHU), Varanasi</b> Integrated Dual Degree (B.Tech, M.Tech) in Mathematics and Computing	<i>July 2016 - Present</i> CPI: 9.19/10
<b>Ahlcon Public School, Mayur Vihar, Delhi</b> Class XII Board Examination	<i>2016</i> Percentage: 97.20

## PUBLICATIONS

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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>

## INTERNSHIPS

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<b>IBM Research AI</b> <i>Conversational Question Answering</i>	May 2019 - August 2019
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- Worked on ShARC – a conversational question answering task wherein the query posed by the user can be underspecified and the system must first ask the user follow up questions.
- Demonstrated and fixed exploits in the current dataset and proposed a system based on BERT which outperforms the current state of the art method.

<b>IIIT Hyderabad</b> <i>Morphological Inflection</i>	May 2018 - July 2018
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- 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.

## ACADEMIC ACHIEVEMENTS

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- Awarded with a scholarship of Rs. 50,000 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.

## TECHNICAL SKILLS

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<b>Languages</b>	Python, Java, C, C++
<b>Technologies</b>	PyTorch, AllenNLP, scikit-learn, Git, L <sup>A</sup> T <sub>E</sub> X, Linux
<b>Areas of Interest</b>	Natural Language Processing, Reinforcement Learning, Deep Learning

## PROJECTS

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### Reinforcement Learning in Non-stationary environments

Aug 2018 - Present

- Proposed an algorithm “UCCRL-KD with restarts” for non stationary environments with continuous state space and gave upper bound on its regret. Currently, working on deriving the lower bound.
- Additionally developed an algorithm based on learning and maintaining multiple partial models of the environments.

### Hypernym Discovery

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* and 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

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*.

## EXTRA CURRICULAR ACTIVITIES

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- 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.
- 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.
- Stood 1st among 560 participants in Codefest Linguipedia, a Natural Language Processing (NLP) online hackathon on sentimental analysis of tweets towards products.