Shreyansh Singh

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IIT(BHU), Varanasi

Computer Science and Engineering
3rd year Undergraduate
CPI : 9.63/10

Examination	University / Board	Institute	Year	CPI / %
B.Tech. (Ongoing)	IIT (BHU), Varanasi	IIT (BHU) , Varanasi	2018	9.63/10
12^{th}	CBSE	Kendriya Vidyalaya, New Delhi	2016	96.6%
10^{th}	CBSE	Kendriya Vidyalaya, New Delhi	2014	10/10

Publications

Hyperlinks at appropriate places

- **IIT (BHU) Varanasi at MSR-SRST 2018: A Language Model Based Approach for Natural Language Generation**
  Shreyansh Singh, Ayush Sharma, Avi Chawla, Dr. A.K. Singh
  Proceedings of the 1st Workshop on Multilingual Surface Realisation (MSR), 56th Annual Meeting of the Association for Computational Linguistics (ACL), July 2018, Melbourne, Australia

Technical Experience

Data Science Intern - Innoplexus AG, Pune *Summer 2018*

***Project**: PDF and Table Extraction from Sessions and Congress pages*

- Worked with the PDF extraction team on the task of extraction of segments of text from PDFs and labeling them as Title, Author, Affiliation, Abstract or Noise. Completely revamped the existing pipeline to make a considerably faster and a more accurate system.
- Worked on various Image Processing techniques and a custom Faster-RCNN model for the Table detection and extraction task.

Technical Skills and Interests

- **C/C++, Python, JavaScript**, Java, HTML/CSS, Bash, SQL, C, GNU Octave, LaTeX, Solidity, Django, Node.js, MongoDB, MySQL, Docker, Git
- Information Security, Capture the Flag contests, Machine Learning and AI (including NLP and CV), Blockchain technology, Web Development, Chatbot Development

Key Projects

Malware Classification *Ongoing*

Under the guidance of Prof. K.K Shukla

- Working on a Malware Classification problem which was proposed by Microsoft as a Kaggle competition in 2015.
- Feature extraction techniques include n-gram sequence, metadata, string length, image representation, entropy, opcodes and register frequency.
- Current progress shows a score of 0.032349082 (around 110^{th} rank) using an Xgboost model.

Multilingual Surface Realization for Natural Language Generation *Spring'18*

Under the guidance of Prof. Anil Kumar Singh

- Participated in the Surface Realization Shared Task organized at ACL 2018 (*Association for Computational Linguistics* , Melbourne, Australia). The task aimed to determine the word order and inflecting words from given unordered Universal Dependencies (UD) structures from which word order information had been removed and the tokens had been lemmatized.
- Used Bidirectional LSTMs and Statistical Language Models to solve the problem of reinflection and correct word order generation.

Review Opinion Diversification *Autumn'17*

Under the guidance of Prof. Anil Kumar Singh

- Part of the organizing team of RevOpiD, a shared task being organized at IJCNLP 2017 (*International Joint Conference on Natural Language Processing*, Taipei, Taiwan).The task aims to produce a top-k ranking of product reviews which can sufficiently represent the gist of opinions expressed in all the reviews of that product.
- Implemented the official baseline for Subtask-B of the shared task. The work done can be found here.
- Also worked on techniques like Paragraph Vectors (Doc2Vec) and FB Research's Sentence embedding model InferSent with Spectral Clustering to solve the problem.
- Volunteered to annotate gold dataset for the shared task.

RemindMe FB Messenger Chatbot *Summer '17*

- Created a Reminder Chatbot for the Facebook Messenger Platform, coded up entirely in Node.js.
- Added Natural Language Understanding to the bot by using the services of WIT.AI.
- Also used the non-relational MongoDB to temporarily store reminders of different users until the reminding time after which the reminder is removed from the database.

Scholastic Achievements

- Secured **All India Rank 576** in JEE Advanced 2016 among 0.2 million candidates.
- Obtained **99.99 percentile** in JEE Main 2016 among 1.5 million candidates.
- Secured **All India Rank 116** in Kishore Vaigyanik Protsahan Yojana (KVPY) 2015, a Govt. of India initiative.
- Cleared the National Talent Search Examination (NTSE) 2014, a Govt. of India initiative wherein 1000 meritorious students are selected at the class 10^{th} (All India) level.
- *Certificate of Merit* in National Standard Examinations in Physics, Chemistry and Astronomy (NSEP, NSEC, NSEA) in 2015 and 2016 for being in the **top 1% (top 300)** of the country in each of them.
- Cleared Junior Maths Olympiad (JMO) in both 2015 and 2016.

Key Courses

Curriculum

- Computer Graphics, Database Management System, Natural Language Processing, Data Structures, Algorithms, Information Technology Workshop (I & II), Computer System Organisation, Operating Systems, Artificial Intelligence, Calculus, Discrete Maths, Probability and Statistics.

Extra Courses

- Intro to Machine Learning (Coursera), Deep Learning for NLP (Videos) (Stanford, CS224N), Developing Android Apps (Udacity), CompTia Network+ Training (Cybrary), Interactive Programming using Python (Coursera), JavaScript(Codeacdemy), Develop Incredible Chatbots (Udemy)

Extracurriculars

- **20^{th} in India** in the CSAW'18 CTF Qualification Round, organised by OSIRIS Lab, NYU Tandon School of Engineering.
- **Tech Head** for Codefest'18, the annual festival of Computer Engineering Society, IIT (BHU) Varanasi.
- **1^{st}** position in IIT (BHU) Varanasi and **17^{th} in the world** in the Cybersecurity based event Capture the Flag in Codefest'18.
- Secured **6^{th} position** at the Inter IIT Tech Meet 2018, held at IIT Madras in the Machine Learning(with Optimization) based event "Optimal Bidding".
- Bagged **4^{th} position overall** and the **1^{st} position in Novelty** at the Inter IIT Tech Meet 2017, held at IIT Kanpur in the web development based event "Dashboard".
- **Frontend Web Developer** for Codefest'17 – the annual coding festival of the Department of Computer Science and Engineering, IIT (BHU) Varanasi.