Keshav Bansal

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Educational Qualifications

Year	Degree	Institution	CGPA/%
July'17 – Present	B.Tech, CSE	Indian Institute of Technology, Kanpur	10.0/10.0
2017	CBSE – XII	Ahlcon Public School, New Delhi	96.2%
2015	CBSE – X	Apeejay School, Noida	10.0/10.0

Projects

Code Mixed Sentiment Analysis   keshav22bansal/BAKSA_IITK ⍟
Research Project under Prof. Ashutosh Modi   Jan 2020 - May 2020

- Participated in Task 9 of SemEval-2020 workshop shared task for sentiment analysis in bilingual code-mixed tweets.
- Used self-attention mechanism to bolster the performance of prevalent CNN architecture by creating an ensemble model.
- Utilized multilingual XLM-Roberta Language Model (variant of Bert) for sub-word embeddings.
- Ranked 5th out of 62 teams for Hindi-English code-mixed tweets.

Log Analyser app   SnehalRaj/LogAnalyser ⍟
Nutanix Cloud Init.io Hackathon   March 2019

- Developed a web app to handle log messages generated by microservices distributed across multiple hosts.
- Included features like live debugging, searchable exception patterns, and statistical graphs.
- Declared the winning submission.

Dcipher   keshav22bansal/Dcipher.hs ⍟
Course Project   March 2019

- Developed system for automatic solution of substitution ciphers in Haskell.
- Operating on N-gram model of English characters and stochastic local search over the space of 10^{26} possible keys.

Money Manager App   keshav22bansal/MoneyManager ⍟
Self Project   Oct' 2019

- Developed a mobile app to create a ledger of monitory transactions between friends using ReactJS and React-Native.

SATisPy SAT Solver   keshav22bansal/SATisPy ⍟
Course Project   Oct' 2018

- Implemented a SAT solver to solve satisfiability problems encoded in propositional logic.
- Used Heuristics such as Unit Propagation and Pure Literal Elimination to decrease the running time.
- Created a program to encode a general SUDOKU puzzle and solved it using this SAT solver.

Skills

Programming Languages: Python, C++, C, Haskell, Bash
Libraries: PyTorch, Tensorflow, Keras, NLTK, Scikit-learn
Web: React, JavaScript, PHP, HTML, CSS
Utilities: Shell Utilities, Git, MongoDB, LaTeX, Vim

Work Experience

Praktice.ai   *Bengaluru, India*
Data Science Intern   May 2019 - July 2019

- Emulated Google's suggested clip feature for answering medical queries, by showing a short video clip.
- Used named entity recognition, and TF-IDF weighted word2vec model vectors for a baseline model, which was improved further using fastText sentence embeddings.
- Analyzed medical data, and came up with an algorithm to suggest ailments given a set of symptoms the patient suffers.

Summer of Code   *Kanpur, India*
Full Stack Development   May 2018 - July 2018

- Developed Web and Android application allowing users to donate excess food to nearby food charities.
- Technologies used - PHP, SQL Server database, Google distance matrix API, Geolocation API, Send Grid API, Microsoft Azure Cloud.
- Awarded the second runner up title.

Honours & Awards

- 2017-2020 **Academic Excellence Award**, for meritorious performance, IIT Kanpur
- 2018 **J.N. Kapur prize**, for the best second year student in Mathematics Courses, IIT Kanpur
- 2017 **All India Rank 782**, JEE Advanced
- 2017 **All India Rank 59**, JEE Main
- 2017 **All India Rank 440**, KVPY Scholarship

Positions of Responsibility

Project Mentor   *IIT Kanpur*
Association of Computing Activities   *2020*

- Conducted lectures on Probabilistic Machine Learning for 15 first year undergraduate students.

Company Coordinator at *Student's Placement Office, IIT Kanpur, 2018-2019*

Miscellaneous

- Silver medalist in Bitgrit data science competition at Inter IIT Techmeet, 2019
- Ranked first in Auquan's Asia Open Data Science competition, 2020.
- 4 star rating on Codechef platform.

Relevant Courses

Natural Language Processing (i)	Introduction to Machine Learning	Advanced Algorithms	Computer Networks (i)
Modern Cryptology (i)	Compiler Design (i)	Data Structures and Algorithms	Computer Graphics
Computer Organization	Discrete Mathematics	Probability & Statistics	Mathematical Logic (A∗)
Computing Lab - 1	Computing Lab - 2	Compiler Design	Numerical Methods (A∗)
Introduction to Programming (A∗)	Linear Algebra (A∗)	Theory of Computation	Real Analysis (A∗)

A∗: Grade for exceptional performance, i: In progress