

# KESHAV BANSAL

Third Year Undergraduate  
Department of Computer Science and Engineering  
Indian Institute of Technology, Kanpur

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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 5<sup>th</sup> 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 monetary 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

## RELEVANT COURSES

Natural Language Processing ( <i>i</i> )	Introduction to Machine Learning	Advanced Algorithms	Computer Networks ( <i>i</i> )
Modern Cryptology ( <i>i</i> )	Compiler Design ( <i>i</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

## 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 competitive programming platform.