

# 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

## HONOURS & AWARDS

- 2017-2020 **Academic Excellence Award**, for meritorious performance, IIT Kanpur
- 2020 **A\* grade in ten courses**, for exceptional performance
- 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

## PROJECTS

**Code Mixed Sentiment Analysis** keshav22bansal/BAKSA-IITK 📄  
Prof. Ashutosh Modi Jan 2020 - July 2020

- Participated in Task 9 of SemEval-2020 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.
- Utilized multilingual XLM-Roberta Language Model 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.

## 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 using named entity recognition, and TF-IDF weighted word2vec model vectors.
- Enhanced user's experience by creating a lexicon of complex medical terminologies encountered during conversation with the practice chatbot using Google search APIs and web scraping.
- Analyzed medical data, and came up with an algorithm to suggest ailments given a set of symptoms.

**Summer of Code** Kanpur, India  
Web Development Intern 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.

## 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

## 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, L<sup>A</sup>T<sub>E</sub>X, Vim