Rahul Kumar Wadbude
Fourth year Undergraduate
CSE, IIT Kanpur
D-113/Hall 1,
Kalyanpur,
Kanpur (U.P., INDIA) - 208016

Email-id : **rahulwadbude2@gmail.com**
Mobile No.: **7753058915**
Alt Mob No.: **9479351355**
Home page

ACADEMIC DETAILS

Examination	Institute	Year	CPI/%
B. Tech. CSE	IIT Kanpur	2017(expected)	8.8
CBSE(XII)	JNV Hazaribagh	2013	96
CBSE(X)	JNV Betul	2011	10

AWARDS AND ACHIEVEMENTS

- Received Pre-Placement offer from **ADOBE** for performance during summer internship.
- Secured **AIR 983** in **JEE Advanced**, 2013 among 1,50,000 students.
- Secured **AIR 1533** in **JEE Mains**, 2013 among 1.5 million students.

SUMMER INTERNSHIP COURSE PROJECTS

- **User Bias Removal in Fine Grained Sentiment Analysis** *(Guide: Dr. Harish Karnick , Aug'16 - Nov'16)*
  - Worked on two simple statistical methods to remove user bias noise to improve fine grained sentimental classification.
  - Applied our methods on SNAP published Amazon Fine Food Reviews data-set and two major categories Electronics and Movies & TV of e-Commerce Reviews data-set.
  - Gained improvement on standard evaluation metrics (rmse) for three commonly used feature representation(LDA, tf-idf, doc2vec) after removing user bias compared to one without removing bias on task of fine grained sentiment analysis.

- **BAT: An Unsupervised Approach for Construction of Domain-Specific Affect Lexicons**
  (Research Internship at Adobe, Guide: Dr. Kokil Jaidka, Dr. Niyati Chhaya , May'16 - July'16)
  - Developed a framework for automatic building of a domain specific affective topical lexicon.
  - Worked with NLP techniques like LDA, dependency parsing and worked with various correlation measures like Google hit based correlation, WordNet similarity measure, PMI, Chi-Square etc.
  - Conducted a survey on Amazon Mechanical Turk and worked with AWS machine.

- **Modifying DPPnet architecture for VQA** *(Guide: Prof. Gaurav Sharma , July'16 - Present)*
  - Reproduced the results of "Image Question Answering using Convolutional Neural Network with Dynamic Parameter Prediction", an accepted paper of CVPR 2016.
  - Integrated Hierachial co-attention network with DPPnet and got better performance then using DPPnet alone.

- **Vehicle detection and classification from traffic videos** *(Guide: Prof. Harish Karnick , Jan'16 - Apr'16)*
  - Performed Background subtraction to separate vehicles from background using MOG2/MOG/GMG modules of python-opencv.
  - Tried various features representations (SIFT, SURF, DNN) for images. Google BLVC model from Caffe framework was used to extract DNN features
  - Tried random forest, SVM etc. algorithms from python sklearn to classify vehicles into cars, bikes etc.

- **Multiple Kernel Learning** *(Guide: Prof. Harish Karnick , Jan'16 - Apr'16)*
  - Learnt about relative kernel hilbert space, multiple kernel learning algorithm and hierarchical kernel learning.
  - Used Caltech multiclass object classification dataset with 102 categories. Used one-vs-rest SVM classifier with surf and convolutional deepnet (pretrained BVLC GoogleNet model) features. Caffe framework was used to extract DNN features.

- Analyzed effects of linear, polynomial, rbf and sigmoid kernels using both features and svm classifier.
- Implemented Simple MKL algorithm and analyzed effect of linear combination of kernels.

- **Designing Nachos** *(Guide: Prof. Mainak Chaudhary , Aug'15 - Nov'15)*
  - Implemented significant pieces of functionality within the Nachos system using C++.
  - Implemented UNIX System calls to perform system tasks like I/O, fork, exit etc.
  - Implemented FIFO, SJF and Priority based scheduling to schedule the processes for execution.
  - Implemented various synchronisation using Semaphores and Conditional Variables.
  - Implemented Demand Paging to allow system to work with large code/data and small RAM.

- **Designing python3 to x86 compiler** *(Guide: Prof. Subhajit Roy , Jan'16 - Apr'16)*
  - Made a Fully functional compiler to convert python 3 source code to x86 assembly code.
  - Implemented Lexer to tokenize python 3 source code using PLY module of python.
  - Implemented Parser to parse Python3 source code using PLY module of python.
  - Designed an IR Language and made a code generator to convert the IR Language to x86 assembly.
  - Implemented function calls, variable scoping, Recursion, Nesting of loops etc.

- **Web Development at Foodmonk.com** *(May'15 - July'15)*
  - Used codeIgniter as framework for web development using a MVC design.
  - Managed the interaction of the site (Foodmonk.com) with databases.
  - Developed features for recommendation, login system, re-purchasing, food customization etc.
  - Developed model for interacting with android application to locate the locality of user using GPS.
  - Created a mess directory for users to register for a mess in their nearby localities.
  - Developed and maintained the back end functionality of the website.

PUBLICATIONS

- User Bias Removal in Fine Grained Sentiment Analysis
  In preparation/submission
- BAT: An Unsupervised Approach for Construction of Domain-Specific Affect Lexicons
  In preparation/submission

TECHNICAL SKILLS

- **Programming Languages**: C++, Python, Scikit-learn library, Torch, OpenCV, Verilog, IA32, Javascript, PHP
- **Web Development** : HTML, CSS, JavaScript, PHP, JQuery
- **Other Tools**: Adobe Muse ,MATLAB , Latex,3Ds Max, Visual studio, GIT, Octave

PROGRAMMING CONTESTS

- Solved **92** problems on CodeChef, an Indian coding platform.
- Solved **86** problems on Codeforces, a Russian coding platform.
- Solved **106** problems on SPOJ, a Polish coding platform.
- Ranked among **Top 1%** users on SPOJ.
- Ranked among **Top 3%** in CodeChef lunchtime(IOI style contest).
- Made a campus location windows app in **Microsoft Code.Fun.Do** 2015 using HTML and CSS.

RELEVANT COURSES

Recent Advances in Computer Vision
Natural Language Processing
Introduction to Machine Learning
Introduction to Data Structure and Algorithms
Algorithms-2
Linear Algebra
Probability and Statistics
Operating Systems
Computer Organisation
Computer Systems Security
Computing Lab
Fundamentals of Computing
Abstract Algebra
Theory of Computation
Logic in Computer Science
Compiler Design
Computer Networks
Discrete Mathematics