Rahul Kumar Wadbude

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

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 the SNAP published Amazon Fine Food Reviews data-set and on two major categories (Electronics and Movies and TV) of the e-Commerce Reviews data-set.
 - Gained improvement in fine-grained sentiment classification with three commonly used feature representations (tf-idf, LDA, doc2vec).

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.
- 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-opency.
 - 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.
- Modifying DPPnet architecture for VQA
 - 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.

• Multiple Kernel Learning

- 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.

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(Guide: Prof. Harish Karnick , Jan'16 - Apr'16)

(Guide: Prof. Gaurav Sharma, July'16 - Present)

• Implemented Simple MKL algorithm and analyzed effect of linear combination of kernels.

• Designing Nachos

(Guide: Prof. Mainak Chaudhary , Aug'15 - Nov'15)

- $\circ~$ 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

hajit 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

- 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 arXiv:1612.06821
- 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 (Guide: Prof. Sub-

(May'15 - July'15)