Kautsya Kanu

Personal Data

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CodeChef:	codechef.com/users/kauts_kanu	CodeChef Discuss:	discuss.codechef.com/users/70101/kauts_kanu
CodeForces:	codeforces.com/profile/kautsiitd	Stack Overflow:	stackoverflow.com/users/4614493/kautsya-kanu

Education

2016	B.Tech. in Production And Industrial	**IIT Delhi**, New Delhi	GPA: 7.84/10
	Minor in Computer Science		GPA: 8.18/10
2012	12^{th} CBSE	R.K.V.M, Gwalior	Percentage: 89.4%
2010	10^{th} U P Board	D.D.S.V.M, Budaun	Percentage: 87.0%

Projects

May 2016 – Mar 2016 | **UnSupervised Decomposition of Multi Author Document**
Investigated the role of feature selection that captures the syntactic patterns specific to an author
N-grams, POS tagging and PQ Grams based features were explored on the un-lexicalised Probabilistic Context-Free Grammar using Stanford POS Tagger and Parser to capture the distinct writing styles
Elicited Segments using Gaussian Mixture Model learnt from iterative soft EM algorithm
Trained Multinomial Naive Bayes classifier over Vital Segments using sk-learn in python

Apr 2016 | **Named Entity Recognition for Real Estate**
Trained CRF Model using MALLET over tokenised Real Estate data of Delhi NCR for entity identification
Used Gazetteers related to locations, first and last names, POS tagging and RegEx as features of words
Explored Word Embeddings found using Word2Vec model on unlabelled corpus, to achieve high F score

Mar 2016 | **Unsupervised and Supervised Hand Written Digit Recognition**
Compared kMeans with PCA and GMM learnt using EM algorithm with PCA for Unsupervised clustering
Learnt Neural Network with Non-linear activation function using Standard Back Propagation method in PCA space for Supervised Clustering of Hand Written Digits with help of PyBrain in python
Tried to use Convolutional Neural Network and Auto Encoders for better Supervised Clusturing

Feb 2016 | **Sentiment Mining and Domain Adaptation on Twitter dataset**
Extracted feature words using Lemmatisation and Stemming, Removed Stop Words and Normalised words with intensely repeating letters and used TFIDF based weighting for high frequency words
Explored SVMs and Logistic Regression with L1 regularizer on sentiment vectors based on unigrams and bigrams of featured words comprising the classification space, trained using n-fold Cross Validaiton

Apr 2015 – Apr 2013 | **Development of Artificial Intelligent Virtual Game Player and Designed GUI**
Implemented MiniMax and Alpha-Beta pruning with Heuristics and achieved 5-ply for Quoridor Game.
Conceptualized BOT with 3-ply and Designed GUI for n*n "TIC TAC TOE" and "2048" in python.

Apr 2015 | **Bayesian Network Learning for Estimation of missing Data**
Learnt the Bayes net on healthcare dataset of more than 11000 patient records over 8 modelled diseases.
Predicted using Expectation maximization algorithm and achieved less than 25% learning error.

Jan 2015 | **Multiple Sequence Alignment for DNA and Proteins**
Implemented IDA*, DFSBnB for optimal solution, Clustal W with hill climbing for sub-optimal solution.
1st Runner-up in sub-optimal solution with less than 5% error from optimal solution among 142 students.

Apr 2015 | **Designed a Processor in Logisim for interpreting Simple RISC Assembly Language**

Feb 2015 | **Formulated NP class problem into CNF SAT formula and solved using SAT Solver named MiniSat**

May 2016 – Jan 2015 | **3D Topology Generation and Simulation of Grinding Wheel, B Tech Thesis**
Generated active grain profiles by Image processing and Texture mapping on topographical projections
Adapted Edge detection Canny algorithm, implemented Z Stack Method, estimated topology in MATLAB
Simulated metal removal for predicting kinematic interaction between grinding wheel and workpiece

Work Experience

April 2017 – June 2016	**iOS Developer at** Headout, **Bangalore** Participated in two internal 1day Hackathons, built Flappy Bird like game using Sprite Kit and Location based nearby products searching feature for app. Revamped code from basic swift files to Xibs Revamped code base from MVC to MVVM and then to Redux type implementation in Swift using ReSwift Included many new features of swift along with Swift 3 transition, including 3D touch, Image Parallex
July 2015 – May 2015	**Backend Developer at** Zimply, **New Delhi** Added an extension for extracting images from Excel sheet, using Excel Programming Language VBA Modified Image compression on EC2 Server using PIL and Cron, reduced downloading time on app Designed and Created Image Tagging, Chat-Box and modelled Database in Django Framework of python Proposed and Developed a Software with Graphic User Interface in Tkinter python for Image operations Worked on Data compression algorithms Huffman, Arithmetic encodings, analyzed more than 10 Image formats and suggested 20% more optimal PJG format for Image compression compared to JPEG format

Extended PPO (Pre-Placement Offer) from organization for value added to company during internship

Competitive Coding

Jul 2017	Positioned among Top 10 contributors on CodeChef Discuss among 8000+ contributors
Sep 2015	Accomplished 58th Global Rank among 6000+ contestants in long contest, organized by CodeChef
Jun 2015	Positioned among Top 3 solvers in an optimization problem among 6000+ coders on CodeChef
Nov 2014	Two time Winner in IIT Delhi Coding Club organized by ACES-ACM, sponsored by HackerEarth
Oct 2014	Ranked 24th in IIT KGP online contest among 1600 worldwide participants, sponsored by HackerEarth

CodeChef: Yellow Rated (Top 1%) | **CodeForces:** BLUE(Expert) | **CodeChef Discuss:** Among Top 0.15%

Scholastic Achievements

2016	**Minor Degree in Computer Science**: Completed Minor Degree in Computer Science with **GPA 8.18/10**
2012	**IIT Joint Entrance Examination**: Secured **1329 (GE)** rank among half million candidates
2012	**All India Engineering Entrance Examination**: Bagged **99.5** percentile among 1 million candidates
2010	**U P Board Merit**: District Topper and Second in Bareilly zone in High School Examination
2010	**Honor Certificate**: Awarded by Director of Science & Technology Board,UP for securing **100%** marks in Maths

Technical Skills:

Courses:	Intro. To Computer Science, Data Structure, Artificial Intelligence, Natural Language Processing, Machine Learning, Pattern Recognition, Analysis and Design of Algorithms, Computer Architecture, Operation Research, Econometric Methods, Digital Electronics, Signal and Systems
Languages:	C++, Python, Swift, MATLAB, C, JAVA, HTML, CSS, JS, mysql, VBA, Verilog, Simple Risc, Latex, Django
OS & Softwares:	MacOS, Ubuntu, Windows, Linux, Fedora, XCode, Logisim, Solidworks, AutoCAD, Creo, Ansys, CES