

# Kautsya KANU

## PERSONAL DATA

|             |   |                   |   |
|-------------|---|-------------------|---|
| EMAIL:      | <a href="mailto:kautsiitd@gmail.com">kautsiitd@gmail.com</a>                            | PHONE:            | +91 7503758135  |
| GITHUB:     | <a href="https://github.com/kautsiitd">github.com/kautsiitd</a>                         | LINKEDIN:         | <a href="https://linkedin.com/in/kautsya-kanu-a0328293">linkedin.com/in/kautsya-kanu-a0328293</a>               |
| CODECHEF:   | <a href="https://codechef.com/users/kauts_kanu">codechef.com/users/kauts_kanu</a>       | CODECHEF DISCUSS: | <a href="https://discuss.codechef.com/users/70101/kauts_kanu">discuss.codechef.com/users/70101/kauts_kanu</a>   |
| CODEFORCES: | <a href="https://codeforces.com/profile/kautsiitd">codeforces.com/profile/kautsiitd</a> | STACK OVERFLOW:   | <a href="https://stackoverflow.com/users/4614493/kautsya-kanu">stackoverflow.com/users/4614493/kautsya-kanu</a> |

## EDUCATION

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|------|--|----------------------|------------------------------|
| 2016 | B.Tech. in PRODUCTION AND INDUSTRIAL<br><b>Minor in Computer Science</b> | IIT Delhi, New Delhi | GPA: 7.84/10<br>GPA: 8.18/10 |
| 2012 | 12 <sup>th</sup> CBSE  | R.K.V.M, Gwalior     | Percentage: 89.4%            |
| 2010 | 10 <sup>th</sup> U P Board   | D.D.S.V.M, Budaun    | Percentage: 87.0%            |

## PROJECTS

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|----------|---|
| APR 2015 | <b>Development of Artificial Intelligent Virtual Game Player and Designed GUI</b>   |
| APR 2013 | <ul style="list-style-type: none"><li>•Implemented MiniMax and Alpha-Beta pruning with Heuristics and achieved 5-ply for Quoridor Game.</li><li>•Conceptualized BOT with 3-ply and Designed GUI for n*n TIC TAC TOE and 2048 in python.</li></ul>   |
| MAY 2016 | <b>UnSupervised Decomposition of Multi Author Document</b>  |
| MAR 2016 | <ul style="list-style-type: none"><li>•Investigated role of feature selection that captures syntactic patterns specific to an author, on baseline</li><li>•N-grams, POS tagging and PQ Grams based features were explored on un-lexicalised Probabilistic Context-Free Grammar using Stanford POS Tagger and Parser to capture distinct writing styles</li><li>•Elicited Segments using Gaussian Mixture Model learnt from iterative soft EM algorithm</li><li>•Trained Multinomial Naive Bayes classifier over Vital Segments using sk-learn in python</li></ul> |
| APR 2016 | <b>Named Entity Recognition for Real Estate</b>   |
|          | <ul style="list-style-type: none"><li>•Trained CRF Model using MALLET over tokenised Real Estate data of Delhi NCR for entity identification</li><li>•Used Gazetteers related to locations, first and last names, POS tagging and RegEx as features of words</li><li>•Explored Word Embeddings found using Word2Vec model on unlabelled corpus, to achieve high F score</li></ul>   |
| MAR 2016 | <b>Unsupervised and Supervised Hand Written Digit Recognition</b>   |
|          | <ul style="list-style-type: none"><li>•Compared kMeans with PCA &amp; GMM learnt using EM algorithm with PCA for Unsupervised clustering</li><li>•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</li><li>•Tried to use Convolutional Neural Network and Auto Encoders for better Supervised Clustering</li></ul>   |
| FEB 2016 | <b>Sentiment Mining and Domain Adaptation on Twitter dataset</b>  |
|          | <ul style="list-style-type: none"><li>•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</li><li>•Explored SVMs and Logistic Regression with L1 regularizer on sentiment vectors based on unigrams and bigrams of featured words comprising classification space, trained using n-fold Cross Validation</li></ul>  |
| APR 2015 | <b>Bayesian Network Learning for Estimation of missing Data</b>   |
|          | <ul style="list-style-type: none"><li>•Learnt the Bayes net on healthcare dataset of more than 11000 patient records over 8 modelled diseases.</li><li>•Predicted using Expectation maximization algorithm and achieved less than 25% learning error.</li></ul>   |
| APR 2015 | <b>Designed a Processor in Logisim for interpreting Simple RISC Assembly Language</b>   |
| FEB 2015 | <b>Formulated NP class problem into CNF SAT formula and solved using SAT Solver named MiniSat</b>   |
| MAY 2016 | <b>3D Topology Generation and Simulation of Grinding Wheel, B Tech Thesis</b>   |
| JAN 2015 | <ul style="list-style-type: none"><li>•Generated active grain profiles by Image processing and Texture mapping on topographical projections</li><li>•Adapted Edge detection Canny algorithm, implemented Z Stack Method, estimated topology in MATLAB</li><li>•Simulated metal removal for predicting kinematic interaction between grinding wheel and workpiece</li></ul>  |

## WORK EXPERIENCE

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| APRIL 2017 | <b>iOS Developer at HEADOUT, Bangalore</b>  |
| JUNE 2016  | <ul style="list-style-type: none"><li>•Managed iOS Development from start to finish, Released more than 20 version updates successfully</li><li>•Introduced SwiftLint(Implemented more than 60 rules) to enforce Swift style and conventions, Refactored codebase for better Readability, avoid Redundancy with access Control levels by proper OOP structure, including Swift specific Protocols, Extensions, Completion Block, Documentation and other</li><li>•Revamped and built various Pages and Models from Scratch, Transferred Swift Views and ViewControllers to XIBs for faster development and easy handling on different screen sizes using Auto Layout</li><li>•Shifted codebase to Swift 3 and featured app with Enhanced Notifications, Peek &amp; Pop, Quick Actions, Deep Linking, Spotlight Search, Apple Pay, Core Animations, Transitions, Image Parallax and many others</li><li>•Worked closely with Design and Analytics team, Released and analysed various AB Experiments and Included concepts like Lottery, Banners, Similar Products, Gift Cards, Referrals to increase conversion</li><li>•Proposed and Included various external Libraries, Alamofire, Algolia, Appboy, Fabric, FBSDKKits, Firebase, SDWebImage, Segment, Stripe, SwiftyJSON etc. for analytics, tracking crashes and AB testing</li><li>•Optimised existing TableViews, CollectionViews, StackViews and Animations utilizing multi-threading, and tracking Memory allocations and Leaks, System Usage and Energy Logs by XCode Developer Tools</li><li>•Built Flappy Bird like game using Sprite Kit and Nearby products searching feature during Hackathon</li><li>•Moved from MVC architecture to MVVM, proposed Redux type implementation in Swift using ReSwift</li></ul> |
| JULY 2015  | <b>Backend Developer at ZIMPLY, New Delhi (Internship)</b>  |
| MAY 2015   | <ul style="list-style-type: none"><li>•Added an <a href="#">extension</a> for extracting images from Excel sheet, using Excel Programming Language VBA</li><li>•Modified Image compression on EC2 Server using PIL and Cron, reduced downloading time on app</li><li>•Designed and Created <a href="#">Image Tagging</a>, <a href="#">Chat-Box</a> and modelled Database in Django Framework of python</li><li>•Proposed and Developed <a href="#">Software</a> with Graphic User Interface in Tkinter python for Image operations</li><li>•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</li></ul> <p>Extended PPO (Pre-Placement Offer) from organization for value added to company during internship</p>   |

## COMPETITIVE CODING

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| 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

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

## TECHNICAL SKILLS

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| COURSES | Data Structure, Artificial Intelligence, Natural Language Processing, Machine Learning, Pattern Recognition, Analysis and Design of Algorithms, Computer Architecture, Database Management System(DBMS), Operation Research, Econometric Methods, Digital Electronics, Signal and Systems |
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| LANGUAGES | C++, Python, Swift, MATLAB, C, JAVA, HTML, CSS, JS, mysql, VBA, Verilog, Simple Risc, Latex, Django |
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| OS & SOFTWARES | MacOS, Ubuntu, Windows, Linux, Fedora, XCode, Eclipse, Git, Logisim, Solidworks, AutoCAD, Ansys |
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## RESEARCH INTEREST

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Algorithms, Machine Learning, Neural Networks, Natural Language Processing, Computer Vision