B13 - 305 IIT Mandi
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# VISHAL ANAND

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## EDUCATION

**Indian Institute of Technology Mandi**        Himachal Pradesh, India        **Aug 2016 – Jun 2020**
- B.Tech in Computer Science and Engineering, CGPA:8.88 (Till 4th Sem)
- **Relevant Courses:** Data Structures and Algorithms, Pattern Recognition, Artificial Intelligence, Computer Organization, Information and Database Systems , Operating System, Networking, Probability Statistics and Random Processes
- **Responsibilities:** ACM Students Chapter Coordinator, Head of competitive programming committee, Teaching Assistant for the course Programming and Data Structure Practicum, Joint Sports Secretary, Cricket Secretary

**Delhi Public School, Varanasi**        Varanasi, India        **March 2007 – March 2016**
- Physics, Chemistry, Maths (CBSE Board), Class10 - CGPA 10, Class12 - 94.2 %

## LANGUAGES AND TECHNOLOGIES

- C, C++, Python, MySQL, HTML, CSS, PHP, Javascript, Java (Android)

## PROJECTS

- **Classification and Clustering using GMM (Machine Learning):** Built a Bayes Classifier using Gaussian Mixture Model for classification of real world dataset of three types - a) 2D speech dataset, b) 3 class scene image dataset c) Cervical cytology (cell) image dataset for various values of clusters. Segmented the cell images by clustering the local feature vectors from cell image datasets into 3 clusters using (a) K-means clustering and (b) clustering using GMM.
- **Bayes's Classifier (Machine Learning):** Built the Bayes classifier for classification of 2D dataset into multiple classes assuming class conditional densities to be coming from Gaussian distribution. Plotted and analysed the decision region plots for different cases of covariance matrix.
- **SearchGuru: Platform providing information of all the professors amongst all the IITs:** The webapp uses a Web-Scraping technique to get the data from the individual website of corresponding institutes. It provides important information about the expert's background, contact, address, experience, scholarly publications, skills and accomplishments, researcher identity, etc. It was built upon MEAN Stack *(Mongo DB, Express JS, Angular JS, Node JS)*
- **ASM - Automatic Stamping Machine + PDF converter:** Created the world's first automatic stamping machine which stamps around 150 pages in 10 minutes, whereafter stamping of each page, it's photo is being clicked using PiCam, converted to JPG and finally all compiled into a single PDF so as to keep the backup of all the originals stamped. *(Python, Raspberry Pi)* Link: `https://goo.gl/Cp4Rto`
- **CodeManiac:** Developed an online judge like SPOJ from scratch supporting submissions in C++ language, gives verdict as AC and WA, featuring live ranklist, users submissions history and statistics showing their overall performance, problems sorted w.r.t number of submissions/ accuracy. *(HTML, CSS, PHP, MySQL)*
- **Digibrary:** Built an android app, in a 24 hour Hackathon, useful for students across all colleges. It recommends the student a list of relevant books by its own on the basis of prior information fed by the student like the semester he/she is studying, majors, minors, the rating of the book by professors and other students, etc. *(Java, MySQL)*
- **Anugami - A Human Following Robot:** Created a robot for Indian Army use which follows and always keeps an eye on the soldier going on a mission alone by tracking his phone. The Android app uses GPS technology, mobile inbuilt magnetic motion sensor, and the Bluetooth to send commands to the robot to follow him. *(Arduino, Java)*
- **Sports Shop Management Software:** Developed a software for the shop manager and for customers for purchasing sports items from the shop, in my Class 12th IP (Informatics Practices) final project. *(Java- Netbeans)*

## HONORS AND AWARDS

- **ACM-ICPC 2019:** Represented IIT Mandi at ACM - ICPC 2019 at Kharagpur Regionals onsite round securing rank 21 / 84. `https://icpc.baylor.edu/ICPCID/5H1EOXPW39LC`
- **ACM-ICPC 2018:** Represented IIT Mandi at ACM - ICPC 2018 at Kharagpur Regionals onsite round.
- **CodeRaids:** 1st Runner Up, Intra College competitive programming contest @Hackerearth.
- **TopCoder-Algorithm Round IIT Mandi:** Secured overall rank 9 in IIT Mandi.
- **NPAT-NPTEL:** (National Programming Aptitude Test) Scored 800/800, 94 percentile in the online coding round `https://goo.gl/ciB3Fy`.
- **KVPY Fellowship Award-2015:** AIR 737 after clearing both the rounds (Aptitude test and Interview Round). `http://www.kvpy.iisc.ernet.in/main/resources/2015-fellowships/2015-SX-GEN.pdf`
- **Zonal Rank 3 in 18th SOF NSO:** In UP and Uttrakhand Zone: Brone Medal and Prize Cheque Rs. 1000/-.