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ACADEMIC DETAILS

Examination	Year	Institute/School	Board	CPI/%
B.Tech	2013-present	Department of E&ECE, IIT Kharagpur		9.07/10
Senior Secondary School Exam(XII)	2011-13	DPS, R.K. Puram	CBSE	94%
Secondary School Exam(X)	2010-11	MMIS, Ambala	CBSE	10/10

SCHOLASTIC ACHIEVEMENTS

- Obtained All India Rank 1167 (Top 0.5%) in the Joint Entrance Examination (JEE) Advance 2013 for IIT's among 2,00,000 participants.
- Obtained All India Rank 1557 (Top 0.1%) and State Rank (Delhi) 155 in Joint Entrance Examination (JEE) Mains 2014 among 14,00,000 participants.
- Secured a department change to the Department of Electronics and Electrical Communication Engg. by maintaining a CGPA of 9.4 at the end of I year at IIT Kharagpur.

TECHNICAL SKILLS

- **Languages**: C, C++, Java, **Script**: Javascript, PHP, Python, R, **Database**: MySQL, NoSQL (Redis, MongoDB)
- **Software Tools/Packages**: PSpice, SolidWorks, MATLAB, Latex, git, OpenCV
- **Operating Systems**: Microsoft Windows, Linux (Ubuntu Distribution)
- **Web Technologies**: HTML, CSS (Materialize, Bootstrap), JQuery, AngularJS (Javascript), JSON, Laravel (PHP), Flask(Python), AJAX

INTERNSHIPS

- **File System Utilization Forecast, Goldman Sachs, Bengaluru**
  Mentor: Mr. Saurabh Kumar ($9^{th} May\ 2016 - 15^{th} July\ 2016$)
  - Designed a TimeSeries Model to predict utilization of a set of host-filesystems, to facilitate re-provisioning.
  - Deveolped a statistical anomaly detection and removal model for initial data preprocessing.
  - Used HoltWinters triple exponential smoothing model to perform predictions, using FFT, Cross Validation and Change Point Analysis to determine seasonality in the time series.
  - Achieved 95% precision and 85% recall in the final results.

- **Backend Development, BabyChakra, Mumbai (BabyChakra.com)**
  Mentor: Mr. Mohit Kumar ($3^{th} May\ 2015 - 5^{th} July\ 2015$)
  - Created the Backend API for BabyChakra Mobile Application on Laravel
  - Shifted the main website backend from core PHP to Laravel.
  - Designed a dynamic article recommendation algorithm based on the number of user likes and hits using Redis and implemented authentication using JSON Web Tokens.

PROJECTS

- **Video Retargeting Using Particle Filter (Bachelor Thesis Project)**
  Guide: Prof. Debashis Sen, Dept. Of E&ECE (May 2016 - Present)
  - Designing a video retargeting system based on motion detection using particle filters.
  - Evaluating the results of use of different methods like non-homogenous content driven resizing, seam carving and saliency dependent cropping for retargeting.
  - Using particle filter motion detection to maintain spatio-temporal coherence in video retargeting.

- **Researcher Recommendation: Relevance (Term Project)**
  Guide: Prof. Pawan Goyal, Dept. Of CSE (January 2016 - April 2016)
  - Developed a co-researcher recommendation system based on research interest similarity.
  - Research interests were matched based on topical similarity(Latent Dirichlet Allocation).
  - A historic collaboration graph based on co-published papers was created.
  - Compatibility scores were based on target node's Centrality and Proximity.

- **Article Headline Generation Using LSTM (Term Project)**
  Guide: Prof. Pawan Goyal, Dept. Of CSE (July 2016 - Present)
  - Designing an article headline generator based on a Long Short Term Memory(LSTM) unit.
  - Performing initial extractive summarization using LDA based topical analysis.
  - Modeling the Seq2Seq transform with a Word2Vec encoder followed by a decoder with attention modelling.
- **Scene Parsing Using Image Segmentation and Semantic Labeling (Term Project)**
  Guide: Prof. Pabitra Mitra, Dept. Of CSE (July 2016 - Present)
  - Modelling an image segmentation and labeling unit using Convolutional Neural Networks (CNN).
  - Using all fully connected downsampling and upsampling layers to get the final labeling.

COMPETITIONS

- **InterHall Opensoft (Software Development)**
  Technology General Championship, IIT Kharagpur (March 2016)
  - Member of **Silver Winning** Lala Lajpat Rai Hall team in developing a Research Paper analyzer to detect and convert plot images to corresponding data tables.
  - Performed edge detection & axis detection(Hough Transform) to classify and detect the plot images.
  - Used Tesseract OCR to identify axis labels and markings and segregated different plot curves based on K-means color segmentation to obtain curves and generate data.

POSITIONS OF RESPONSIBILITY

- **Steering Committee Member, Tech Team, Spring Fest 2017,** *(2016 -Present)*
  - Mentored a group of 150 I year students as a part of Web Development Summer Training & Tech Team selection, teaching them basics of frontend and backend web application development.
  - Currently managing a team of 4 Heads and 12 Sub-Heads in order to handle the online presence of Spring Fest 2017.
- **Head, Tech Team, Spring Fest 2016,** *(2015-16)*
  - Created the Beta website of Spring Fest 2016 using Materialize CSS (Google Materials).
  - Created a Campus Ambassador (CA) Portal integrated with Facebook (Graph API) to track and analyze the fest's Facebook publicity activities by CAs.
  - Designed and Created the Mobile Website of Spring Fest 2016 using AngularJS and Ionic.
  - Developed the frontend of the Main Website based on SVG animations using Snap.svg (JS Framework).
- **Sub-Head, Tech Team, Spring Fest 2015,** *(2014-15)*
  - Created Spring Fest Nationwide Prelims' event portals using standard LAMP & managed large MySQL databases of registered participants and their teams.
  - Integrated Facebook login with certain event sites(Face Of SF) using the Facebook Graph API.
- **Student Mentor, SWG Student Mentorship Programme, IIT Kharagpur,** *(2015-16)*
  - Mentored a group of three I year students with their academic and extra-academic college activities.

RELEVANT COURSES

- **Computer Science**
  - Information Retreival, Speech Natural Language Processing, Machine Learning, Algorithms - I*
- **Electronics & Electrical Communication:**
  - Digital Image Processing, Digital Electronic Circuits*, Microcontrollers & Embedded Systems*, Signals & Systems
- **Department Of Mathematics**
  - Probability & Stochastic Processes, Matrix Algebra

**Courses with Laboratory Component*

EXTRA ACADEMIC ACHIEVEMENTS

- Completed training in National Sports Organization (NSO), Table Tennis (2013-2015).
- Won Gold Prize in District Level Classical Singing competition in 2010.