Curriculum Vitae

Ishita Ankit

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Education

Indian Institute of Technology, Kanpur,UP — 2013–2017
Bachelor of Science
Major: Mathematics & Scientific Computing
Minor: Computer Science- Artificial Intelligence — CPI: 8.1/10.0

Jawahar Vidaya Mandir, Ranchi, Jharkhand — 2012
Central Board of Secondary Education — Percentage: 95.2 %

Sacred Heart School, Ranchi, Jharkhand — 2010
Indian Certificate of Secondary Education — Percentage: 96.0%

Projects

Descriptive Image Captioning, Prof.V.Namboodiri(CSE), Prof.B.V.R.Kumar(MTH), IITK,July-Dec'16

- Replicated the torch implementation results of Dense Captioning model to obtain region-specific captions.
- Refined the captions by putting filter on the overlap area and caption similarity to reduce redundancy.
- Used Stanford Parser to extract root words for clustering captions on topic basis and fed them into an encoder-decoder model trained to generate sentences from phrases obtaining successful results in producing paragraphs for images in Visual Genome Dataset.

Video Captioning, Prof.Gaurav Sharma, CSE, IITK — July'16–Dec'16

- Implemented the State-of-the-art model of Sequence to Sequence-Video to Text which exploits the temporal information of videos by feeding the CNN features of every frame of the video into a two-layered LSTM.
- Incorporated audio features to improve the confidence in activity prediction which refined captions.
- Combined the Deep Compositional Captioning model to use a language model trained on DBpedia producing better captions and reduced dependency on annotated dataset.

Handwriting Recognition using DTW algorithm, Prof.Amit Mitra, MTH, IITK — July'16–Dec'16

- Pre-processed data obtained from UCI ML Repository containing series of co-ordinates at each timestamp.
- Successfully applied Dynamic Time Warping(DTW) algorithm as well as its variant to classify alphabets written by around 100 volunteers with an accuracy of 70%.

Pedestrian and Vehicle Classification, Prof.Harish Karnick, CSE, IITK — Jan'16–Apr'16

- Cleaned the data obtained from surveillance camera videos of the campus and carried out background subtraction for object detection which were then tracked using box overlap in consecutive frames.
- Employed grey-scale, HOG, hierarchial HOG and SIFT features for clustering as well as classification.
- Experimented with SVM, Random Forest, Adaboost, Convolutional neural nets for classification of vehicles and pedestrians obtaining the highest accuracy of 95.37%.

Gaussian Processes for Regression, Prof.Piyush Rai, CSE, IITK — Jan'16–Apr'16

- Studied Gaussian Processes which involves inferring a distribution rather than giving a point estimate.
- Assumed a Gaussian prior with a zero mean and squared exponential covariance over the predicting function and used Bayes Theorem to obtain a posterior which is also a Gaussian Distribution for forecasting.
- Tried various covariance functions securing an A in the project to predict forest fires in GPML, MATLAB.

Campus News Website, Programming Club, IITK — May'14–June'14

- Designed a website as a centralized platform for updates scraped from campus mails, club and senate sites.
- Built an interactive user interface in AngularJS which was used by campus students to log-in and choose topics of interest for grouping of information enabling regularisation of important news and updates.

Internships

InMobi, Bangalore, India — May'16–July'16

Predicting User Relevant Advertisement, Data Scientist Intern

- Analysed data containing app usage history to obtain user specific pattern in the app preferences.
- Tried k-means, agglomerative Mean-Shift and Markov models to group users with similar features.
- Trained SVM, decision trees & Random Forest for predicting ads with maximum click through rates to provide user targeted advertisements.

Demand Pool Analyzer (DPA), Software Intern

- Build an Analytical Engine to get insight into Supply-Demand Matching for real time debugging.
- Tomcat based web application in Java backed by Elastic Search for efficient querying,aggregating data.
- Real time feedback using Kafka which provided data for analysis from serving systems having necessary details.

Tarnea Technology Solutions, Bangalore, India — May'15–July'15

Sales Forecasting using Time Series Analysis, Data Analyst Intern

- Developed a model to predict weekly and quarterly sales of medicines using past 2 years data.
- De-trended & deseasonalized the data to obtain stationary sequences for applying time-series models.
- Used Exponential Smoothing & ARIMA[Auto Regressive Integrated Moving Average] methods to forecast the sales of 12 medicines for 30 retail stores.

Scholastic Achievements

- Ranked in National Top 0.2% (amongst 1,400,000 candidates) in JEE Mains 2013 and 1185 (amongst 150,000 candidates) in IIT-JEE Advanced 2013.
- Recipient of the prestigious INSPIRE(Innovation in Science Pursuit for Inspired Research) fellowship by the Government of India to promote research based education.
- Elected as the Head girl and also bagged the Outstanding Sacred Heartian Award(Highest Honor in School).

Relevant Courses

Fundamental Course on C Language
Probability And Statistics
Applied Stochastic Processes
Time Series Modeling
Ordinary and Partial Differential Equations
Real and Complex Analysis
Linear and Abstract Algebra
Data Structures & Algorithms
Machine Learning Tools and Techniques
Introduction to Computer Vision
Recent Advances in Computer Vision
Topics in Computer Vision
Theory of Computation
Principles of Database Systems

Technical Expertise

Programming Languages C,C++, Java, Python, MATLAB, HTML5, CSS, R

Packages Scikit learn, Pandas, NLTK, GPML, OpenCV

Leadership and Social Initiatives

Head Events, Entrepreneurship cell, IITK — May'15–May'16

- Planned and executed eSummit'15 and TEDxIITKanpur'16 as a core team member of E- cell.
- Envisioned and introduced the flagship competition of eSummit, Upstart, catering to seed stage start-ups.

Enactus, IITK — May'15–May'16

- Created sustainable livelihood for villagers through initiatives: Agaaz(Training village ladies to make paper product) and PakVan (Employing the jobless mess workers by training them to cook delicacies).

Head Girl, Sacred Heart School, Ranchi — Mar'08–Mar'09

- Represented the school in inter-ICSE meets and was a member of the school senate.
- Actively involved in Help-age India campaign & school's initiative to work in cheshire homes housing special children.

Co-Curricular Activities

- Won the "Best Incoming Sportsperson" award and also represented the institute at InterIIT Sports Meet Bombay'14 & Guwahati '13.
- Completed 3 years in Tabla from Prachin Kala Kendra & received Second prize in Instrumental Competition.
- Written articles for Blogs: Entrepreneurship-cell(An Ounce of Madness),Techkriti, Blog For a Cause, NERD newsletter.

Recommenders

Dr.Vinay P. Namboodiri
Assistant Professor,
CSE, IIT Kanpur, India
vinaypn@iitk.ac.in •

Dr.BV Ratish Kumar
Professor,
MTH, IIT Kanpur, India
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Dr.Farhat Habib
Senior Research Scientist,
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