GAURAV AHUJA

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EDUCATION

Stony Brook University, New York *Aug 2017 – Dec 2018 (Expected)*
Master of Science, Computer Science GPA 4.0/4.0
Relevant Courses: Computer Vision, Big Data Analytics, Artificial Intelligence

Indian Institute of Technology (IIT) Delhi, India *July 2011 – May 2015*
Bachelor of Technology, Computer Science and Engineering. Ranked 95/468,280 in the qualifying exam (JEE 2011)

TECHNICAL SKILLS

Java (Android), MATLAB, C, C++ (OpenCV), Python, Spark, Version Control (Git, Perforce)

WORK EXPERIENCE

Samsung R&D Institute India, Noida *July 2015 – Aug 2017*
Engineer – Biometrics and Computer Vision Team

- *Biometrics*: Developed an authentication system based on a novel biometric modality. Implemented the functionality to collect raw data and extract biometric template. Trained SVM and ensemble of decision trees on handcrafted features for authentication. Collected data of 520 users and achieved 4.34% FRR at 0.0017% FAR
- *BioHashing*: Developed a two factor fingerprint authentication system using biohashing
- *Private Mode*: Worked on development of framework layer of Private Mode feature in Samsung smartphones
- *Awards*: Two time winner in *MOSAIC Ideation Contest*

INTERNSHIP

Samsung R&D Institute India, Noida *Summer 2014*
Facial Landmark Detection

- Trained HAAR feature based cascaded classifiers for detecting eyes and mouth in face images
- Used a regression model to obtain coarse estimates of facial landmarks. Trained random forests and a regression model to iteratively refine the estimates using local information and global shape

ACADEMIC PROJECTS

Crop Yield Prediction Using Big Data *Fall 2017*

- Computed normalized histograms of weather characteristics over each country at biweekly and monthly time steps
- Used random forest, linear and support vector regression to predict per year yield of Apple, Barley and Maize

Yeast Cell Detection in Fluorescent Microscopy Images *Fall 2017*

- Trained YOLO network for detecting variable number of yeast cells. Achieved average IOU score of 0.46

Facial Expression Recognition System *Fall 2014 – Spring 2015*

- Developed a real time facial expression recognition system robust to illumination variations
- Used geometric and texture (LBP, LDP) features, SVM, Naïve Bayes and kNN classifiers for expression classification

Data Visualization and Analysis *Fall 2012*

- Analyzed the state of Indian Lok Sabha by visualizing the parliamentary data. Formulated and tested hypothesis about the MPs behavior based on age, gender, education, political party and location
- Analyzed a hypothetical live social media database. Used the information about communication between nodes to establish node clusters and popularity trends of topics being discussed in the network

Part of Speech Tagger *Spring 2015*

- Developed a Hidden Markov Model (HMM) based Part of Speech tagger. Used bi-gram, tri-gram models and Viterbi algorithm to obtain most probable tag sequence

Study of Classifiers *Fall 2014*

- Implemented SVM, Neural Network, Naïve Bayes, K-means, Decision trees, PCA, Linear and Logistic regression for problems like SPAM classification, digit recognition, document classification, voting prediction and face recognition

BlackJack *Spring 2014*

- Modeled the game of BlackJack as a Markov Decision Process. Computed the optimal strategy chart on the basis of player's cards and dealer's face-up card

Travel Planning Website *Spring 2014*

- Developed the backend of a dynamic travel planning website. Implemented the functionality to search hotels, restaurants in a city and trains between two cities (direct and indirect)