Sarthak Ahuja

CONTACT INFORMATION

TF09, IBM India Research Lab
New Delhi 110070, India

sarthakahuja.org
sarthakahuja@outlook.com

EDUCATION

Indraprastha Institute of Information Technology, Delhi

Bachelor of Technology (Honors), Computer Science, August 2016 — CGPA: 9.1

Apeejay School, Pitampura, New Delhi

Senior School, Science, CBSE, May 2012 — 93.2%

High School CBSE, May 2010 — 95.0%

EXPERIENCE

Software Engineer (Research), IBM Research — July 2016 to present
Member of the Collaborative Cognition group (earlier known as Analytics and Optimization), working on the machine learning and collaborative decision making component of IBM Watson Recruitment.

Research Associate, PreCog Research Group, IIIT-Delhi — May 2016 to July 2016
Led the work on patch based visual summarization of world events on social media - #VisualHashtags; Contributed as a Software Developer on Project-O, Precog's social media analytics platform.

Research Intern, Infosys Center for AI, IIIT-Delhi — December 2014 to May 2016
Explored applications of Modern SLAM Systems and built systems for visual positioning for wearable cameras and vehicle dashboard cameras; Core member of IIIT-Delhi's Autonomous Car Team - Swarath. Led the development of the perception module and the test suite.

Head, Product(Web), Meri Awaaz — September 2014 to August 2016
Founding member at a start up aimed at bringing back focus on a politician/candidate's work by developing a constituency level complaint redressal and interaction platform.

WORKSHOPS

International Institute of Information Technology, Hyderabad — July 2016
Summer School, Deep Learning in Computer Vision

SELECTED PROJECTS

Cogniculture — Jan 2017 onwards
Exploring socio-cognitive systems capable of acquiring and demonstrating cultural awareness and adaptability skills necessary to self-sustain, survive and evolve alongside human counterparts.

IBM Watson Recruitment — July 2016 onwards
Developing the cognitive component of IBM's recruitment offering; Increasing hiring efficiency by predicting the probability of success of a prospective candidates using features mined from requisitions and resumes; Developing a collaborative decision making pipeline to resolve candidate preference among various stake holders/cognitive agents through sequential game play.

#VisualHashtags — May 2016 to May 2017
Formulated a novel method for visual summarization of social media events in the form of images patches; Proposed system incorporates a multi-stage filtering process and social popularity based ranking to achieve improved coverage on politics and sports datasets.

Egocentric Vehicular SLAM — January 2015 to May 2016
Built a navigation system to carry out robust visual positioning for a car by using a generated odometry on encountering an erratic GPS signal; Built the apparatus for the dashcam using a point grey camera and an intel NUC running an implementation of the LSD-SLAM algorithm.

Fettle — January 2016 to May 2016
Built an intuitive fitness tracking cum food recommendation engine to dynamically recommend items from popular food chain menus aligned with a user's fitness activity and goals.

Distress Detection — August 2014 to July 2015
Created an android application that uses a two-stage supervised learning algorithm to robustly detect audio based distress activity in multiple urban contexts; Developed a web dashboard to monitor the generated alarms and employ online learning to reduce false alarms by mining occurrence patterns.

Multi-Sensor Data Fusion for Human Activity Recognition — August 2015 to November 2015
Created a system to perform data fusion between two approaches for human activity detection, accelerometers and egocentric cameras, to improve the overall performance of the system.

Multi-Agent Path Planning(MAPP) for Warehouse Butlers — August 2015 to November 2015
Implemented the MAPP Algorithm by Ko-Hsin Cindy Wang and Adi Botea in a warehouse simulation to identify potential points of failure in warehouse layouts, affecting the quality of the service.

Kinect Driven 2D Mesh Animation with OpenGL August 2015 to November 2015
Created an application in QT to animate a 2D mesh character and drive its actions through a kinect; Explored automatic rigging and skin deformation algorithms.

Publications

- **Ahuja, S.**, Mondal, J., Singh, S., George, D.; Similarity Computation Exploiting the Semantic and Syntactic Inherent Structure among Job Titles, *Full Research Paper at ICSOC 2017*
- Goel, S., **Ahuja, S.**, Subramanyam, A., Kumaraguru, P.; #VisualHashtags: Visual Summarization of Social Media Events Using Mid-Level Visual Elements, *Full Research Paper at ACM MM 2017*
- Singh, S., Chaudhuri, R., Manu Kuchhal, M., **Ahuja, S.**, Parija, G.; Multi level clustering technique leveraging expert insight, *Full Research Paper at JSM 2017*
- Pimplikar, R., Mukherjee, K., Parija, G., Narayanam, R., Vishwakarma, H., Vallam, R., Chaudhuri, R., **Ahuja, S.**, Mondal, J., Kataria, M.; Cogniculture: Towards a Better Human-Machine Co-evolution, *Technical Article, arxiv#2090020*

Patents

- Singh, S., Parija, G., Chaudhuri, R., Kuchhal, M., Kataria, M., **Ahuja, S.**; SIdeal: System and Method for Attribute Weight Induction in a Multiple Recruiter Setting Exploiting Public Goods Games Framework, *patent pending*
- **Ahuja, S.**, Mukherjee, K., Mondal, J., Singh, S.; Cogniculture based Eco-System for Multi-Viewer Smart TVs, *awaiting file*
- Singh, S., Mondal, J., **Ahuja, S.**, George, D., Medicke, J., Klabzuba, A.; System and Method to Produce Generalized Representation of Job Description Documents and Calculate Similarity Using the Representation in Recruitment Domain, *awaiting file*

Selected Honors and Awards

- Winning Team, Consensys Award at HackInOut 2017, for the hack *"VoteChain - Blockchains for Decentralized Elections"*.
- Awarded the IBM Manager's Choice Award 2016 in recognized for the practice - *Restlessly Reinvent IBM and Ourselves.*
- Awarded the *All Round Performance Medal* for the overall performance in curricular and extra-curricular activities in the B.Tech. (CSE) program 2016.
- First Prize in the Technical Paper Presentation event at Cogenesis 2016, Delhi Technological University for *"Multi-Sensor Data Fusion for Human Activity Recognition"*.
- Best Demo Award in the Elevator Pitch Event at IIIT-Delhi Research Showcase 2015 for "*Distress Detection*".

Teaching Experience

Teaching Assistant

CSE101 - Introduction to Programming, IIIT-Delhi	Monsoon 2014
CSE102 - Data Structures and Algorithms, IIIT-Delhi	Winter 2015
CSE201 - Advanced Programming, IIIT-Delhi	Monsoon 2015
CSE344/544 - Computer Vision, IIIT-Delhi	Winter 2016

Skills

Programming Languages

- Matlab, C++, Python, Java, HTML, CSS, PHP, Javascript, R, SQL

Tools and Libraries

- SPSS, AnyLogic, ILOG, Ruby on Rails, Django, Android SDK, ROS, NodeJS, Photoshop, Illustrator, Apache Storm, Apache Spark, Pandas, OpenCV, Keras, Theano, Torch, Apache Kafka

Volunteer Experience

Communication and Information Management, AIESEC DU August 2013 to April 2014
Worked as a Team Leader at a youth organization aimed at providing young people with leadership development through cross-cultural internships

Organizations and Activities

• Elected Member of the Student Council.	April 2015 to April 2016
• Founder and Admin Ink. (Design Club)	August 2014 to May 2016
• Admin Foobar (Programming Club)	January 2015 to January 2016
• Member of the Placement Committee IIIT-Delhi	January 2015 to January 2016
• Organizing Team IIIT-Delhi Research Showcase 14 and 15	February 2014 and February 2015
• Member of the Core Organizing Committee Esya 14	May 2014 to September 2014