Divyansh Agarwal

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Education

Carnegie Mellon University, School of Computer Science — Pittsburgh, PA
Master of Computational Data Science — *Dec 2019 (expected)*
***Relevant Coursework**: Computer Systems, Machine Learning, Language & Statistics, Interactive Data Science*
***Honors**: JN Tata Endowment scholarship for pursuing masters degree*

Netaji Subhas Institute of Technology, Delhi University — New Delhi, India
Bachelor of Engineering in Information Technology; CGPA: 8.48/10 — *May 2016*
***Relevant Coursework**: Pattern Recognition, Artificial Intelligence, Designing Human-Centered Systems*
***Bachelor thesis**: Application of unsupervised machine learning to opportunistic network routing*

Skills

Programming Languages: Python, C++, C, Ruby, Java, SQL, HTML, CSS, Javascript

Tools and Technologies: Apache Storm, Ruby on Rails, Flask, sklearn, RESTful APIs, Celery, proto.io, selenium, Ionic framework, Matlab, d3.js, LaTeX, matplotlib, Gephi, STL, MongoDB, MySQL, Redis

Experience

IIIT Delhi, Precog Group — *New Delhi, India*
Software Developer and Researcher — *June'16 - May'18*

Killfie: Understanding dangerous selfies on social media (LINK)**:**
- Engineered a multimodal classifier to predict dangerous selfie images with an accuracy of 85%, using image and location-based features for identifying selfie risks, based on real-world inferences.
- Performed a time-series analysis of 11K Instagram timelines using the survival analysis methodology, Used time variant cox regression to model effect of social feedback on selfie posting behavior.
- Published study cited by BBC, CNN, MIT Tech Review and lauded by the Indian Government.

Advanced Application for Social Media Analytics (AASMA):
- Full stack developer for a cyber forensic analysis tool to monitor real-time information sharing.
- Developed a distributed architecture for real-time image analysis, using Celery, Apache Storm & Redis, for image sentiment, tagging and OCR; which increased the project scale from 42 to 85 installations.
- Added capabilities for temporal and quantitative analysis of user-interactions and social influence.

Other projects:
- Built and deployed a customizable text + image annotation portal in Ruby on Rails, which allowed ground truth collection for multiple projects through simultaneous crowdsourcing.
- Conceptualized and built a mobile app through an iterative human-centered design process with ∼400 downloads, that connects people having a similar interest in micro-activities around them.
- Built a responsive collaboration graph depicting academic relationships between all researchers at Precog, using a collapsible force directed layout in d3.js.

University of Lyon, ERIC Lab — *New Delhi, India*
Research Intern (remote) — *Dec'15 - Feb'16*
- Developed a critical study of controversy detection and opinion summarization schemes in literature, and performed a comparative analysis on a data set curated from relevant sub-reddits.
- Generated a novel controversy estimation metric through depth estimation of the conversation tree.

TrulyMadly Matchmakers — *New Delhi, India*
Data Science Intern — *June'15 - July'15*
- Developed Truly Madly's (popular Indian dating app) nudity detection system from scratch as measured by an accuracy of 88% on 10-fold cross validation, using transfer learning techniques.
- Increased the productivity of the user uploads moderation process by at least 200%.

Publications

WWW'18 - MSM Workshop: *Using Deep Learning to Identify Dangerous Selfies on Social Media.* PDF

ICWSM'17: *From Camera to Deathbed: Understanding Dangerous Selfies on Social Media.* PDF

Journal of AIHC (Springer): *kROp: K-Means Clustering based routing protocol for Oppnets.* PDF