Shubham Agrawal

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EDUCATION

COLUMBIA UNIVERSITY
MS Computer Sciecne
Aug. 19 - Dec 20

UNIVERSITY OF S. CAL.
MS Computer Sciecne
(Transferred out)
Jan. 19 - Apr. 19
CGPA: 3.65

IIT KANPUR
B.Tech Computer Science
Jul. 13 - May 17
CGPA: 8.7/10

EXPERIENCE

ADOBE | C++, JS
Software Developer
Jul. 17 -Dec. 18

RESL, USC | Robotics
Research Intern
May 19 -Jul. 19

ADOBE | Research
Intern
May 17- Jul 17

COURSEWORK

Recent Advances in Vision
Bayesian Machine Learning
Artificial Intelligence
Machine Learning Tools
Optimizations Techniques
Natural Language Processing

MISCELLANEOUS

SENATOR | Viterbi
Graduate Student
Association, USC
Jan. 19 - Apr. 19

ACADEMIC MENTOR |
Counselling Service, IIT
Kanpur
Jul. 14 -Apr. 15

CHASSIS HEAD | IITK
Motorsports, BAJA
Student India
Oct. 13 -Jan. 15

AWARDS

2013	All India Rank 191	IIT-JEE ADVANCED among 150K candidates
2013	All India Rank 1234	JEE-MAINS among 14M candidates
2014	Academic Excellence Award	DOAA, IIT Kanpur
2015	BEST ROOKIE TEAM	BAJA STUDENT INDIA

PUBLICATIONS

| ACM SIGSPATIAL 2017 | Smart Geo-fencing with Location Sensitive Product Affinity |
| Patent #15434886 | Smart Geo-fencing with Location Sensitive Product Affinity |

PROJECTS

SMART GEO-FENCING | Research Project - Machine Learning
May 16 - Jul. 16 | Big Data Experience Lab, Adobe Inc.
Algorithmically designed personalized geo-fences for selective customer targetting. To unsheathe user interest from sparse location tagged browsing data, algorithm captures intrinsic interest of user, trends at semantically similar locations and similarity between products and users. Achieved precision was 5 times higher than the existing geo-fence.

DENSE CAPTIONING | Research project - Computer Vision
Aug. 16 - Nov. 16 | IIT Kanpur
Analyzed the work "DenseCap" by Andrej Karpathy et. al. by experimenting with the parameters and design choices. Enhanced the mAP from 5.698 to 5.76.

DIFFERENTIABLE PHYSICS ENGINE | Research Project - Robtoics
May 19 - ongoing | Robotics Embedded Research Laboratory, USC
Automatic task-based robot design and parameter estimation for nonlinear dynamical systems by automatically calculating gradients in Interactive Differentiable Simulation. Implemented efficient Adjoint Method for getting differentials of integrated ODEs.

VEHICLE CLASSIFICATION | Course project - Computer Vision
Jan. 16 - Aug. 16 | IIT Kanpur
Experimented with object proposal methods (Morphological, Selective Search) and feature extractors (SURF, ConvNets) for detection and classification. Used decision tree, random forest and SVM (OVR and OVO) classifiers to predict labels.

PORN BLOCK | Open source project - Computer Vision
Jan. 18 - Aug. 18
Chrome extension for identification and blurring of sensual contents from webpages. Implemented and Trained CNN for classification using KerasJS and scrapped data. Wrote a proxy server for bypassing CORS while generating the client side image matrix.

BAYESIAN FACTORIZATION | Research project - Machine Learning
Jan. 17 - May 17 | IIT Kanpur
Analyzed the performances of Poisson, Hierarchical Poisson, and Bayesian Non-parametric Poisson Matrix Factorization on MovieLens 1M dataset.

STICKY ANNOTATION SYNCHRONIZATION | C++ JS Development
Jan. 18 - Jul. 18 | Acrobat Development Team, Adobe Inc.
Engineered the sticky annotation capability for the new HTML based PDF webview. The new view now supports CRUD operations of sticky annotations and synchronization of the annotations with the original view.