Company: Adobe **Company Name: Adobe Nature Of Business: Product Designation: MDSR Intern**

Tentative Job Location: Bangalore / Remote

> **Media and Data Science Research Labs Digital Experience Cloud Adobe India**

dobe Digital Experience Cloud's mission is to transform how businesses compete. We offer a collection of best-in-class solutions for marketing, analytics, advertising and commerce, integrated on a cloud platform. We manage over 233 trillion transactions per year and handle over 35 petabytes of data every guarter.

At the Media and Data Science Research (MDSR) labs, we work on fundamental and applied research problems relevant to the Experience Cloud. Our research focus spans Computer Vision, Natural Language Understanding and Data Science, often in an interdisciplinary manner. We also work on foundational questions related to AI and deep mathematical areas.

> All intern projects at Adobe India MDSR are expected to make a novel contribution to a research area and result in a publication or patent applications. A patent filing

carries a significant monetary reward (Patent bonus for a single patent at Adobe is USD 7000). The lab has over 150 filed patents.

We have published research papers with our interns at some of the most prestigious conferences in Machine Learning, Artificial Intelligence, Computer Vision and Natural Language understanding. Some recent publications are listed in the next page.

Many of our projects culminate into features for Adobe products. Here are a few contributions over the last 2

vears that have made it to the news:

We are looking to hire people with a passion for science and technology, especially, Computer Vision, Machine Learning, Natural Language Understanding, Data science or Mathematics for research internships with the MDSR, Noida team. Contact us at kbalaji@adobe.com if you are interested.

We are hiring! **Requirements:**

- Pursuing BTech/ MS/PhD in Computer Science/Mathematics or related fields
 - Excellent computer science

fundamentals

Nice to have:

- Experience with Tensorflow, Pytorch, and/or
- Experience with Spark, large scale data processing.

Contact: kbalaji@adobe.com

- ProjectClothesSwap Image Based Virtual Try On
 - ProjectBonVoyage Live Journey Insights
- ShapeVis- Topological Data Analysis for Audience Segmentation AI
 - Document Image Segmentation in **Adobe Experience Manager Forms**
 - Currency Optimization
 - Product Recommendations and

Media and Data Science Research Labs

Digital Experience Cloud

Adobe India

Selected Recent Publications

Intern contributors starred and in bold

• Attributional Robustness Training using Input-Gradient Spatial Alignment Mayank Singh, Nupur

Kumari, Puneet Mangla*, Abhishek Sinha, Vineeth N Balasubramanian, Balaji

Krishnamurthy (ECCV 2020)

Description:

 Retrospective Loss: Looking Back to Improve Training of Deep Neural Networks Surgan Jandial*,

Ayush Chopra, Mausoom Sarkar, Piyush Gupta, Balaji Krishnamurthy, Vineeth Balasubramanian

(KDD 2020)

• Document Structure Extraction using Prior based High Resolution Hierarchical Semantic

Segmentation Mausoom Sarkar, Milan Aggarwal, Arneh Jain, Hiresh Gupta, and Balaji

Krishnamurthy (ECCV 2020)

• SimPropNet: Improved Similarity Propagation for Few-shot Image Segmentation, Siddhartha

Gairola*, Mayur Hemani, Ayush Chopra, Balaji Krishnamurthy, (IJCAI 2020)

• Explain Your Move: Understanding Agent Actions Using Specific and Relevant Feature

Attribution, Nikaash Puri, Sukriti Verma, Piyush Gupta, Dhruv Kayastha*, Shripad Deshmukh*,

Balaji Krishnamurthy, Sameer Singh (ICLR 2020)

• ShapeVis: High-dimensional Data Visualization at Scale, Nupur Kumari, Siddarth R., Akash Rupela,

Piyush Gupta, Balaji Krishnamurthy (WWW 2020)

• SieveNet: A Unified Framework for Robust Image-based Virtual Try-On Ayush Chopra, Surgan

Jandial*, Kumar Ayush, Mayur Hemani, Balaji K. (WACV 2020)

 Towards A Unified Framework for Visual Compatibility Prediction, Ayush Chopra, Kumar Ayush,

Anirudh Singhal*, Utkarsh Patel*, Balaji K. (WACV 2020)

• Charting the Right Manifold: Manifold Mixup for Few-shot Learning. Puneet Mangla*, Nupur

Kumari, Mayank Singh, Abhishek Sinha, Balaji Krishnamurthy, V N Balasubramaniam. (WACV 2020)

• Multi-Modal Association based Grouping for Form Structure Extraction, Milan Aggarwal, Mausoom

Sarkar, Hiresh Gupta*, Balaji Krishnamurthy (WACV 2020)

• Powering Robust Fashion Retrieval with Information Rich Feature Embeddings Ayush Chopra,

Abhishek Sinha, Mausoom Sarkar, Hiresh Gupta*, Kumar Ayush, Balaji K. International Conference

on Computer Vision and Pattern Recognition 2019 Workshops CVPRW 2019 Best Paper Award.

 $\begin{array}{c} \bullet \ \ Optical GAN: Generative \ Adversarial \ Networks \ for \ Continuous \ Variable \ Quantum \\ Computation, \end{array}$

Nilay Shrivastava*, Nikaash Puri, Piyush Gupta, Balaji Krishnamurthy, Sukriti Verma (QTML 2019)

• Harnessing the Vulnerability of Latent Layers in Adversarially Trained Models, Mayank Singh,

Abhishek Sinha, Nupur Kumari, Harshitha Machiraju, Balaji Krishnamurthy, Vineeth N

Balasubramanian, (IJCAI 2019)

Program AE BSBE CE CHE CSE EE ES ME MSE PHY CHM MTH ECO DES IME HSS

BT-BS No No Yes Yes No No No No No No No No Yes MT No DoubleMajor No No No No Yes Yes No No No No No Yes No dual No No No No Yes Yes No No No Nο No No Yes dualB No --No **Eligibilty:** dualC No Mdes No MBA ----No --Phd No Msc No No Yes No **MSR**

Stipend per month: Other Facilities Offered

CPI CutOff:

100000

Bond :

False

0.0

Medical Requirments: Resume Shortlist: True **Resume Shortlist** screening Criteria: **Aptitude Test: False Group Discussion: False Technical Test:** True **Technical Test** N/A **Duration: Technical Interview:** True **Technical Interview** N/A **Duration: Number of Techincal** 1 **Interview Rounds: HR Interview: False**

Additional Information: