Aditya **Vikram**

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Education

Indian Institute of Technology, Kanpur *9.7/10*

B.Tech, Electrical Engineering, Minors in Algorithms and Machine Learning *2014-2018*

Work Experience

Software Development Engineer *Bengaluru, India*

Adobe Systems *July 2018 - Present*

- Implemented numerous components of an integral iOS UI library, used across all Adobe iOS apps
- Architected a process to modularize the components of the UI library, reducing the app's binary size by around 5 MB
- Added support for background downloading in an Engagement SDK, thereby improving user experience
- Improved performance and launch time of dynamic paywalls, resulting in increased revenue due to greater engagement
- Improved several cloud-controlled features for the in-app messages shown to iOS users
- Implemented a batching+caching mechanism for analytics in an SDK for Universal Windows Platform
- Implemented a retry and re-connection logic around flaky inter-app communication for Universal Windows apps
- Implemented a user-facing request-access workflow for enabling collaboration in cloud documents

Research Intern *Bengaluru, India*

Adobe Systems *May 2017 - July 2017*

- *"Visualizing and designing a navigable interface for a large-scale image gallery on a 360 canvas"*: Given the problem area of Virtual Reality websites, surveyed existing work, brainstormed and chose the problem statement
- Proposed novel ways for image layout in virtual reality and implemented it for Samsung Gear VR in Unity
- Formed an Image similarity graph from a 150,000 image dataset using State-of-the-art techniques
- Wrote a Flask server for image search and nearest-neighbor requests, minimized the image retrieval lag and implemented a tag-based image search

Projects

Online MCMC based Bayesian Inference [Report] *Prof. Piyush Rai*

Course Project for **Topics in Probabilistic Modeling and Inference** *Jan'18-Apr'18*

- Performed a survey of Online Markov Chain Monte Carlo methods, important for bayesian inference over a large dataset
- Studied Stochastic Gradient Langevin Dynamics (SGLD) method for online MCMC and the theory of Langevin dynamics
- Studied and implemented Stochastic Gradient Riemannian Langevin Dynamics (SGRLD), an extension of SGLD which overcomes its limitations in constrained settings

Grammatical Error Correction in Sentences [Report] *Prof. Harish Karnick*

Course Project for **Introduction to Natural Language Processing** *Jan'18-Apr'18*

- Implemented a LSTM based sequence-to-sequence (*seq2seq*) model using *keras* to correct grammatical errors in sentences, using LSTMs for encoding and decoding
- Trained and tested the *seq2seq* model on NUCLE dataset with sub-sampling and suggested improvements to improve the accuracy of correction

Brittle ML: Playing Satan *Prof. Purushottam Kar*

Course Project for **Introduction to Machine Learning [Report]** *Aug'17-Nov'17*

- Studied various models of adversarial attacks on Machine learning models, especially convolutional neural nets
- Successfully implemented a blackbox attack on Inception-v3 in Tensorflow to craft adversarial examples for images
- Attempted to break Ranking methods that use decision trees pursuing an approach mentioned in literature

Technical Skills

Languages C++, C++/CX, Objective C, Swift, Typescript, Javascript, Python, Shell, LaTeX

Frameworks/ Tools React, NodeJS, Cocoapods, Git, MATLAB

Achievements

- Received *Spot Award* in FY *2019-20* and *2020-21*, and *Special Contribution Award* in FY *2021-22* for exemplary contributions to critical projects at Adobe
- Received *Academic Excellence Award* for outstanding academic performance(among *top 7%* students) for the academic years *2016-17*, *2015-16* and *2014-15*
- Secured All India Rank *317* in JEE Advanced 2014