DANISH AHMAD KHAN

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EDUCATION

University of Wisconsin Madison, WI **Class of 2017**

- MS in Computer Science, GPA: 4/4
- **Coursework:** Distributed Systems, Big Data Systems, Computer Vision, Machine Learning, HCI, AI

BITS Pilani, India **Class of 2013**

- BE (Hons) Computer Science, GPA: 3.7/4

PROFESSIONAL EXPERIENCE

Software Engineering Intern **Amazon** **Summer 2016**

- Designed and implemented an end to end distributed dev-ops application using Java8 for managing and monitoring Java services at runtime using JMX overcoming the security restrictions of existing solutions (JConsole, VisualVM, etc.).
- This included three polymorphic API's exposing JMX controllers and a Ruby on Rails client with UI to use them.
- This enabled developers to modify in memory objects across the cluster including task poller count, log level, etc.

Jr. Technical Director (TD) **DreamWorks Animations, India** **Sep 201 3 –July 2015**

- Credited as a texturing TD on feature films *"How to Train Your Dragon 2"* and *"Penguins of Madagascar (POM)"*
- Developed a python based pre-render python tool called "myLOD" which helped reducing the render time on crowd shots from 30 to 60 percent by dynamically reducing the generic hair fur density as a function of camera distance.
- Designed and developed scalable backend for the python based web application using Tornado, MongoDB for validating and managing animation clips and associated metadata.

Technical Director (TD) Intern **DreamWorks Animations, CA, USA** **July 2012 – Aug 2013**

- Developed a PyQt tool to generate hundreds of variants of a character for crowd scene using weighted randomization based on customizable rules defined by the artists.
- Optimized Catalog's (a Photoshop Plugin) efficiency by 70% by context based caching of document's layerset data.

ACADEMIC/UNIVERSITY PROJECTS

Air Pollution level detection jointly with textual and visual data from Social Media (Advisor: Prof. Charles Dyer)

- Tool for extracting text and images from twitter to infer air pollution level using deep learning and computer vision. K-Means is used for clustering features extracted from RCNN. Outdoor cluster is processed with multiscale combinatorial grouping to identify sky regions and are used to find haziness using dark channels.

Large Scale K-Means clustering using Apache Spark

- Spark application for k-means clustering of a large set of image feature vectors in a distributed manner on 31 node cluster using apache spark's MLlib libraries running atop YARN.

Embedded image processing system for face and motion detection using OpenCV and Python

- Simple tool written in Python using OpenCV libraries for processing the input image (Converting RGB to grayscale and taking the Laplace of an image to apply canny filters for face detection)

LANGUAGES AND TECHNOLOGIES

Languages: Python, C, C++, Scala, MEL, JavaScript, OpenGL
Web Dev Technology: Web2py, Tornado, Angular JS

HONOURS AND ACHIEVEMENTS

- **Star Award, 2015** for workplace value addition and technical training for new hires at DreamWorks Animation.
- Winner at **IDEA CHALLENGE** (coding competition) at **ATMOS - 2011**, annual technical festival at BITS-Pilani.
- Received **"Outstanding performance trophy"** in state level **Ramanujan Talent Search exam, year 2007**.

INTERESTS: Big Data and Distributed Systems, Large Scale Computer Vision, Machine Learning.