NISHANK SINGHAL

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EDUCATION

Birla Institute of Science and Technology, Pilani, Dubai-Campus, Dubai — **May 2018**

Bachelor of Engineering (Hons.) in Computer Science — **CGPA: 7.8**

SKILLS

- **Programming/Scripting Languages:** Python, C, C++, HTML, JavaScript, SQL
- **Frameworks and Tools:** Scikit-Learn, Pandas, Numpy, Tensorflow, AWS, Kafka, Docker, OpenCV, Git, MongoDB, Apache Tomcat

WORK EXPERIENCE

Data Science Intern **| HCL, India [IEEE, ICECCT-2017]** — **Jun 2016 - Aug 2016**

- Developed novel image classification technique by forming Bag of Visual Words using FAST and FREAK as feature detectors.
- Achieved accuracy of 90.8% by implementing Support Vector Machine as Supervised Machine Learning model.

PROJECTS

Visual Question and Answering — **Jan 2018–Present**

- Developed a project combining the forces of NLP and CV to train a machine to answer questions about an image.
- Concatenated VGG model for images and RNN model for text to help answer a question.

A Quantitative Approach to Analyse Modifiability in Software Architectural Design of Agile Application Systems — **Oct 2017–Jan 2018**

- Designed and implemented a pipeline structure for faster interpolation of documents and a mechanism to perform multiple tasks in parallel for the end user.

Application of Convolutional Neural Network to Classify Sitting & Standing Postures **[WCECS-2017]** — **Jan 2017–May 2017**

- Developed a system to identify whether a sitting or standing posture of a person correct or incorrect using image processing and deep learning.
- Applied image processing techniques like back-ground subtraction, morphological dilation and contouring on each frame of the video input to feed into CNN model.

Detection of Oil Spill in Marine Ecosystems through Computer Vision-IORTA — **Aug 2016–Mar 2017**

- Developed a smart oil spill solution using drones to reduce the damage to marine ecosystems after an oil-spill containment.
- Detected oil spill in marine from drones using image processing techniques.

Detection of Diabetic Retinopathy through Computer Vision — **Aug 2016–Oct 2016**

- Developed an android application to find the diabetic retinopathy stages of fundus.
- Classified images into normal, mid, moderate and severe using SVM.

CNN and RNN for Judgement Prediction of a candidate in Video Interview **[IEEE, SPIN-2018]** — **Jan2016–Aug 2016**

- Developed a technique to score candidate in video interview based on facial, eye gestures.
- Trained Convolutional Neural Networks and Recurrent Neural Networks using TensorFlow after image processing.
- Performed a comparative analysis of CNN and RNN for training and testing of facial gestures.

PUBLICATIONS AND AWARDS

- Comparing CNN and RNN for Prediction of Judgement in Video Interview based on Facial Gestures [IEEE,SPIN-2018]
- A Level 4 Autonomy Self Driving Car Protocol for UAE [AEIT-2018]
- Application of Convolutional Neural Network to Classify Sitting and Standing Postures [WCECS-2017]
- Image Classification using Bag of Visual Words Model with FAST and FREAK [IEEE, ICECCT-2017]
- Conferred Best Paper Award for research, IEEE, ICECCT-2017
- 6th Position at Drones for Good (National Category), UAE-2017
- 1st Position at AngelHack, UAE-2016
- Winner of InternsMe Best Idea Award, 2016