ABHISHEK KUMAR

2nd Year MS Student, Computer Science and Engineering
Ohio State University, Columbus, OH

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EDUCATION

The Ohio State University, Columbus, OH — May 2019
M.S., Computer Science and Engineering GPA 3.9
Indian Institute of Technology, Ropar, India — May 2014
B.Tech , Electrical Engineering GPA 7.56/10

EXPERIENCE

Research Assistant: Attribute Detection on Skin Lesions (Summer 2018)
Mentor: Dr. Raghu Machiraju

- Development of Machine learning models to detect skin lesion attributes on the "ISIC 2018: Skin Lesion Analysis Towards Melanoma Detection" dataset.
- Development with Mask R-CNN Resnet-50 and Resnet-101 models.
- Investigating effects of data augmentation on transfer learning models.
- Results: Jaccard Index of 0.3 on testing data.

Cisco Systems India Inc., Software Engineer (June 2015-Mar 2017)
Service Provider Access Group, Bengaluru, India

- Development of a zero-touch provisioning system for metro-Ethernet switches.
- Development of a controller-based solution to remotely configure NID switches near Customer Edge in network.
- Involved in implementation and development of services designed to replicate config files in deployed NIDs.

Cognizant Technology Services, Associate (Developer) (Aug 2014-May 2015)
Open Source Centre of Excellence in ASP BPI, Chennai, India

- Development of solutions focused on open source technologies such as Redhat JBOSS Fuse Middleware.
- Development of solutions with EXT-JS, Spring MVC and JBOSS Fuse technologies.
- Development of Backend Database layer solutions with Hibernate and SQL.

INTERNSHIP

Lucid Software's, Chennai, Research Intern (May 2013-July 2013)

- Conducted analysis of Ray Tracing algorithms and applications of Fermat's theory in Minimum Path problems.
- Development of an algorithm for Global Minimum Path based on Graph Theory using Greedy Algorithms and Dijkstra's algorithm.

I**ndian Institute of Technology, Delhi,** Research Intern (May 2012-July 2012)

- Involved in the development and analysis of GUI systems for real time data acquisition
- Analyzed systems for feature extraction and decision threshold learning for online verification of hand based biometrics.

PROJECTS

Wireless Pass-Through Network (Spring 2018-current) — **Mentor: Dr. Anish Arora**

- Development of a pass through long range wireless network with limited endpoints/throughput.
- Investigating throughput/latency of popular wireless meshes like BMX and OLSR.
- Studying the relevance of common communication patterns like AnysCast, Multicast in wireless meshes.

HPV Cancer Detection (Spring 2018) — **Mentor: Dr. Raghu Machiraju**

- Development of transfer learning model to classify HPV-non HPV cancer.
- Investigating Resnet and VGG-16 models for transfer learning.

AI Player for Othello (Artificial Intelligence Course: Spring 2014) — **Mentor: Dr. C K Narayan**

- Development of AI player based on an A-STAR algorithm with varying heuristics.

Application of Signal Compression in Infrared Diagnostics. (Spring 2014) — **Mentor: Dr. Ravibabu**

- Development of a NDT algorithm based on use of pulse compression in Complementary Coded Sequences to achieve better SNR and penetration depth in Infrared Diagonostics.

TECHNICAL SKILLS

Languages: C, Java, Python
Machine Learning Tools: Tensorflow, Keras
Middleware: MuleSoft, Redhat Fuse
Network Sim Libraries: ns-3