

Akshay Raj Dhamija.me

Computer Vision & Deep Learning Researcher

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Experience

06/18 - Today **Computer Vision Intern**

[Misty Robotics](#)

Developing object detection algorithms for systems with limited computational power. Formulating new evaluation metrics for comparing algorithms in unconstrained scenarios.

09/15 - 05/18 **Research Assistant**

[Vision And Security Technology Lab](#)

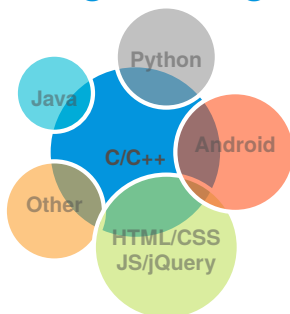
Working on IARPA grant for Janus project, aimed towards recognizing faces in the wild, under the guidance of Dr. Terrance E. Boulton. Focused on investigating attribute recognition from faces in both closed set and open set scenarios using SVMs and deep networks.

11/12 - 08/15 **Project Consultant**

[My Personal Health Records eXpress \(MphRx\)](#)

An exhilarating experience, that exposed me to the dynamics of startups and healthcare industry while juggling various responsibilities such as project management, product design, requirement gathering, product delivery and market analysis. Restructured and launched products for various major hospitals and diagnostic chains in India and US.

Programming



Publications

Reducing Network Agnostophobia

Akshay Raj Dhamija, Manuel Günther and Terrance E. Boulton

Neural Information Processing Systems (NIPS) 2018 - Spotlight Presentation

Unconstrained face detection & open-set face recognition challenge [arXiv](#)

M. Günther, P. Hu, C. Herrmann, C. H. Chan, M. Jiang, S. Yang, **A. R. Dhamija**, D. Ramanan, J. Beyerer, J. Kittler, M. Al Jazaery, M. I. Nouyed, G. Guo, C. Stankiewicz, and T. E. Boulton

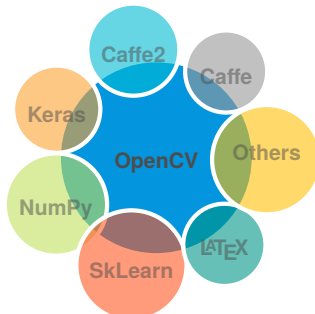
Challenge paper at International Joint Conference on Biometrics (IJCB) 2017

What's hiding in my deep features?

Ethan M. Rudd, Manuel Günther, **Akshay R. Dhamija**, Faris A. Kateb and Terrance E. Boulton

Book chapter - Deep Learning in Biometrics By CRC/Taylor & Francis Press.

Tools



Awards

Outstanding Masters Degree Student - Computer Science

University of Colorado

Best Student Award - Biomedical Signal Processing Workshop

CardeaLabs

OS Preference

Ubuntu ★★★★★

MacOS ★★★★★

Windows ★★★★★

Languages

English ★★★★★

Hindi ★★★★★

Education

- 2018 - Now **PhD Student - Computer Science**
[University of Colorado, Colorado Springs](#)
- 2015 - 2017 **Master of Science - Computer Science**
[University of Colorado, Colorado Springs](#)
- 2010 - 2012 **Master of Business Administration - Software Enterprise Management**
[Guru Gobind Singh Indraprastha University, New Delhi](#)
- 2006 - 2010 **Bachelor of Technology - Biomedical Engineering**
[Rajasthan Technical University, Kota, Rajasthan](#)

Projects

An open-set approach to Object Detection

In the scope of this work for my masters thesis, I demonstrated the use of open-set solutions to object detection while improving results from existing approaches like Faster RCNN. As an extension of this work, I have also proposed new loss functions and evaluation metrics in order to compare algorithms on openset problems.

Feature extraction & point cloud reconstruction – Satellite images

Under the guidance of Dr. Jonathan Ventura, this project aims at feature detection from satellite images as well as point cloud construction from multi-view satellite imagery using deep neural networks.

VR website using A-Frame

Aimed towards experiencing basics of Virtual Reality and creating a personal virtual reality website using A-Frame. The website may be found at dhamija.me/vr

Android application for GRE aspirants

The project was aimed at learning Android Application development and creating an application for GRE aspirants for practicing Reading Comprehensions. More than 4000 Downloads and 900 active users. [Play Store Link](#)

Robot object fetching

The project was a part of the robotics course at UCCS, where a robot equipped with a camera and a raspberry pie was used to identify a predefined cylindrical object, approach it and grip. Four ultra-sonic sensors were also used in order to localize the robot. ROS was used in the above project.

Patient monitoring system

The project involved developing a patient monitoring system with parameters of temperature and ECG waveform fed into a PC where processing was done in MATLAB. This project couldn't be completed but a few Heart Rate Variability (HRV) parameters (Heart rate, RR Interval, NN50 and SDNN) were successfully extracted from a pre-stored ECG signal.

Implementing goods codification and production reporting system at FPSI

The project involved a detailed study on the manufacturing and managerial process of Fair Plast and Synthetic Industries (FPSI) which is a plastic bag manufacturing company. After the study issues of goods codification and production reporting were addressed by developing goods codification techniques for raw materials, work in progress and finished goods along with a production reporting system to help streamline the management process.