Akshay Raj Dhamija.me

Computer Vision & Deep Learning Researcher

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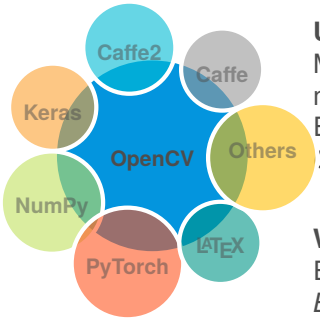
Programming

Tools



Experience

9/18 - Today
09/15 - 05/18 **Research Assistant** — Vision And Security Technology Lab
Working on various projects aimed at problems of image classification, object detections and face recognition. Focused on proposing solutions to improve performance both in traditional research based on closed set scenarios and real world or open set scenarios.

06/18 - 8/18 **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.

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.

Publications

Reducing Network Agnostophobia link
Akshay Raj Dhamija, Manuel Günther and Terrance E. Boult
Neural Information Processing Systems (NeurIPS) 2018 - Spotlight Presentation

Improving Deep Network Robustness to Unknown Inputs with Objectosphere link
Akshay Raj Dhamija, Manuel Günther and Terrance E. Boult
Uncertainty and Robustness in Deep Visual Learning (CVPR'2019 workshop) - Spotlight

Learning and the Unknown: Surveying Steps toward Open World Recognition link
Terrance E. Boult, **Akshay Raj Dhamija**, Steve Cruz, Manuel Günther, James Henrydoss and Walter Scheirer
Proceedings of the AAAI Conference on Artificial Intelligence - 2019

Unconstrained face detection & open-set face recognition challenge link website
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. Boult
Challenge paper at International Joint Conference on Biometrics (IJCB) 2017

What's hiding in my deep features? link
Ethan M. Rudd, Manuel Günther, **Akshay R. Dhamija**, Faris A. Kateb and Terrance E. Boult
Book chapter - Deep Learning in Biometrics By CRC/Taylor & Francis Press.

Openset: The overlooked elephant of object detection Under Review
Akshay R. Dhamija, Manuel Günther, Jonathan Ventura and Terrance E. Boult

Awards

Top Scholar Award - Mountain Lion Research Day
University of Colorado
Outstanding Masters Degree Student - Computer Science
University of Colorado

Education

2018 - Now **PhD Student (Advisor Dr. Terrance E. Boult) - 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

Other Projects

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
Implementing goods codification and production reporting system at FPSI
Proposing facility layout plans for an industry in MSME segment