

Akshay L Chandra

<https://akshaychandra.com>

EDUCATION

- **Indira Gandhi National Open University** Hyderabad, India
Post Graduate Diploma in Applied Statistics; 85%; *July 2017 – June 2018*
 - **Core Courses:** Foundations in Mathematics & Statistics, Descriptive Statistics, Probability Theory, Statistical Inference, and Statistical Techniques.
 - **Specialization:** Industrial Statistics (Topics - Optimization Techniques, Game Theory, Statistical Modelling).
- **Jawaharlal Nehru Technological University** Hyderabad, India
Bachelor of Technology in Computer Science And Engineering, 76%; *Aug. 2013 – May 2017*
 - **Major Project:** Built an intelligent web application using ASP.NET for efficient placements administration, with a prediction module that predicts students' placements with 87% accuracy.
 - **Excelled In Courses:** Mathematics, Predictive Analytics, Big Data Analytics, Java Programming, Design And Analysis Of Algorithms, Operating Systems, Computer Networks.
 - **Extracurricular:** Content Developer at kMitra, college's e-Magazine. Captain of college's football team.

PUBLICATIONS

1. **Akshay L Chandra**, S.V. Desai, Vineeth N Balasubramanian, S. Ninomiya, Wei Guo. Active Learning with Weak Supervision for Cost-Effective Panicle Detection in Cereal Crops. Preprint. Under Review.
2. **Akshay L Chandra**, S.V. Desai, Wei Guo, S. Ninomiya, Vineeth N Balasubramanian. An Adaptive Supervision Framework for Active Learning in Object Detection. British Machine Vision Conference (BMVC) 2019.

RESEARCH/WORK EXPERIENCE

- **Indian Institute Of Technology Hyderabad** Hyderabad, India
Research Assistant, Visual Learning And Intelligence Lab *Dec. 2018 - Present*
 - Working under the guidance of **Prof. Vineeth N Balasubramanian** on Deep Active Learning for Plant Phenotyping, as part of a DST-JST SICORP Collaborative Project of IIT-Hyderabad with University of Tokyo, IIT-Bombay, IIIT-Hyderabad, and PJTSAU.
- **GGK Technologies** Hyderabad, India
Associate Software Engineer, AI/ML Team *June 2017 - Sept. 2018*
 - Optimized business processes for clients across multiple sectors like health care, retail, e-commerce by building useful prediction models, capturing customer/patient behavior patterns, identifying correlation and causation, maintaining data quality for smooth visualization and modeling. Exclusively worked on building a Computer Vision application that detects product pickups in a retail store from just the CCTV footage.
 - Won **Trainee-Of-The-Month** award in July 2017 among 28 other trainees.
 - Won **Star-Of-The-Month** award in August 2018 for successfully incorporating an Object Detection model in the same Computer Vision application I mentioned above.
- **Polycom Technology R&D Centre** Hyderabad, India
Software Engineer Intern *Aug. 2016 - Oct. 2016*
 - Worked on Polycom's Android platform. With the help of Google's Speech API, implemented Speech Recognition feature in the 'Jaguar' update of their operating system.

OTHER EXPERIENCE

- **Udacity** Hyderabad, India
Project Reviewer & Mentor, Computer Vision Nanodegree *Nov. 2018 - Present*
 - Udacity is an educational organization offering hundreds of massive open online courses.
 - Currently, I review and assess code files, reports of projects submitted by students of Computer Vision Nanodegree program and assist them in graduating the course.

• EduRidge India

Machine Learning Instructor

Hyderabad, India

May 2018 - Dec. 2018

- To support a group of young entrepreneurs, I volunteered to give 6 hands-on 'Intro to Machine Learning' and 'Exploratory Data Analysis' sessions in Python, organized by EduRidge at various engineering institutions across Hyderabad.

PROJECTS

• Image & Bounding Box Annotation Slicer

An Object Detection Data Transformer

Apr. 2018

- This easy-to-use library is a data transformer mainly useful in Object Detection tasks.
- It slices images and their bounding box annotations into smaller tiles, both into specific sizes and into any arbitrary number of equal parts. It can also resize them, both by specific sizes and by a resizing/scaling factor.
- Readily available on PyPI for installation.
- **URL:** https://github.com/acl21/image_bbox_slicer
- **DOCS:** <https://image-bbox-slicer.readthedocs.io>

• Mouse Cursor Control With Facial Movements

An HCI Application

Oct. 2018

- Controls mouse cursor with facial movements, uses Deep Learning, works with a regular webcam. It is hands-free, no wearable hardware or sensors needed. With the help of facial landmarks, this system registers facial actions like squinting eyes, winking and head movements and moves the cursor accordingly.
- Demonstration video of the project received over 250,000 views and 7500 likes on LinkedIn.
- **URL:** https://github.com/acl21/Mouse_Cursor_Control_Handsfree

• Automatic Image Captioning With Visual Attention

An Advanced Deep Learning Application

Aug. 2018

- This application reads an image and outputs a caption describing objects in the image. To achieve this, I have trained a deep Encoder-Decoder model with Visual Attention on the famous COCO dataset using PyTorch.
- **URL:** https://github.com/acl21/Image_Captioning_Attention

• Robust Morse Code Converter

A Deep Learning Application

Aug. 2018

- This application converts Morse code signalled through eye-blinks, flashlight-flicks, mouse-clicks & hand gestures.
- I built an Object Detection model that detects hands, trained on Indian University's EgoHands Dataset.
- **URL:** https://github.com/acl21/MorseCode_Converter_DeepLearning

• Selfie Filters Using Facial Landmarks

Creating Snapchat Like Filters Using Deep Learning

June 2018

- This application puts Snapchat like filters on faces by detecting 15 facial landmarks.
- I trained the landmarks detection model on Dr.Yoshua Bengio's Facial Landmarks Dataset on Kaggle.
- **URL:** https://github.com/acl21/Selfie_Filters_OpenCV

COMPUTER SKILLS

- **Languages:** Python, R, Java, C, C++, C#, SQL, PHP, JavaScript.
- **Libraries & Packages:** PyTorch, TensorFlow, Keras, OpenCV, Sklearn, Matplotlib, MATLAB, Latex, ASP.NET.

CERTIFICATIONS

- **Deep Learning:** NPTEL's 12-week, AICTE-FDP approved certification taught by Prof. Mitesh M. Khapra of IIT-Madras. Finished in the top 5% of the online class with over 700 students across India.
- **Computer Vision Nanodegree:** Udacity's 12-week course with 3 CV based advanced deep learning projects.
- **Deep Learning Specialization:** Coursera's 5-course specialization taught by Andrew Ng and deeplearning.ai team.
- **Oracle Certification - Java SE 6 Programmer (1Z0-851):** Passed the exam with 100% score.