

# Yashasvi Baweja

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## EDUCATION

2015 - PRESENT

**Indraprastha Institute of Information Technology (IIIT), Delhi, India**

B.Tech, Computer Science and Engineering - CGPA: 8.27/10.0

## Coursework

Computer Vision, Artificial Intelligence, Statistical Machine Learning, Linear Algebra, Collaborative Filtering, Advanced Programming

2015

**Gyan Bharati School, New Delhi, India**

Senior Secondary School (12th Grade) - Percentage: 95%

## EXPERIENCE

MAY'17 - PRESENT

**Undergraduate researcher - Image Analysis and Biometrics Lab, IIIT-Delhi**

Advisers: [Dr. Richa Singh](#) and [Dr. Mayank Vatsa](#)

- Working on finding an embedding space for face/periorcular images for heterogeneous recognition using deep learning.

- The proposed loss equation achieves state-of-the-art results on cross-spectral and cross-resolution tasks.

- *Part of this work has been submitted to European Conference on Computer Vision(ECCV), 2018 and Biometrics: Theory, Applications, and Systems(BTAS), 2018.*

MAY'17 - JULY'17

**Research Intern - Indian Institute of Technology (IIT), Mandi**

Adviser: [Dr. Varun Dutt](#)

- Made landslide prediction models for Mandi-Manali route by applying random forests, SVMs and neural networks.

- Used oversampling techniques like SMOTE, SMOTE-ipf to reduce class imbalance in landslide datasets.

- Developed an Arduino based landslide monitoring weather station which is currently in deployment.

JUNE'16 - JULY'16

**Summer Intern - VlinkInfo Pvt. Ltd., Gurgaon, India**

Worked on revamping a human resource management platform using tools like PHP, Codeigniter, MySQL.

## SKILLS

SOFTWARE

PyTorch, TensorFlow, OpenCV, MATLAB, scikit-learn, Arduino, L<sup>A</sup>T<sub>E</sub>X, Git, Linux

LANGUAGES

Python, C, C++, Java

## PROJECTS

JAN'18 - APRIL'18

***Binary Segmentation of animal images***

A semi-supervised approach to segment the forest images of animals into foreground and background. This reduces the search space for finding the animal only in the foreground. [\[Slides\]](#)

JAN'18 - APRIL'18

***Automatic Music Generation***

Worked on modelling polyphonic piano data using Hidden Markov Models(HMMs) and compared it's performance with deep learning methods (RNNs) for automatic music generation. [\[Report\]](#)

JAN'16 - APRIL'16

***Smart Glasses***

A reading tool for the visually impaired made using OpenCV and Tesseract-OCR along with a feature of recognizing acquaintances. Got selected in top 10 course projects and also got featured in Delhi-Mini Maker Faire. [\[Blog\]](#), [\[Code\]](#)

MAY'17 - JUNE'17

***Periorcular Recognition***

A recognition system for the periorcular region I made to get started with biometrics and image processing. Recognized person on the fused score of feature matching with LBPs, HOGs & SIFT. [\[Code\]](#)

AUG'17 - DEC'17

***Multi Heuristic A\* (MHA\*)***

As a part of the AI course project, compared the performances of search algorithms - MHA\* and A\* on tile sliding problem, graph traversal(n=400 nodes) and finding the best way for a bus tour in the city. [\[Code\]](#)

***All projects available at [yashasvi97.github.io/projects.html](https://yashasvi97.github.io/projects.html)***

## PUBLICATIONS

2017

*A Comparison of Class Imbalance Techniques for Real-World Landslide Predictions*; Kapil Agrawal, **Yashasvi Baweja**, Deepti Dwivedi, Ritwik Saha, Prabhakar Prasad, Shubham Agarwal, Sunil Kapoor, Pratik Chaturvedi, Naresh Mali, Venkata Uday Kala and Varun Dutt. [\[paper\]](#), [\[presentation\]](#)

*Gave an oral presentation of our work at the International Conference on Machine Learning and Data Science, 2017*

## AWARDS &

RECOGNITION

- Got recognition letter from [MHRD](#) for outstanding performance in class XII examination in 2015.

- Got Bronze Medal in Manav Sthali National Maths Olympiad, India in 2014.