

SHAUNAK HALBE

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EDUCATION

College of Engineering Pune

Third Year Undergraduate

Department of Computer Engineering

July 2018 - Present

GPA: 9.82 / 10

Institute Rank: 1 / 700

TECHNICAL SKILLS

Programming Languages

C/C++, Python, SQL, Matlab

Software & Tools

HTML5, CSS, Javascript, React.js

Platforms & Toolkits

Jupyter Notebooks, Google CoLab, Git, Bash Scripting,
Linux Commands, LaTeX

Deep Learning Frameworks

PyTorch, Keras, Tensorflow

Research Interests

**Computer Vision , Natural Language Processing,
Deep Learning, Explainable and Robust AI**

PUBLICATIONS

Exploring Weaknesses of VQA Models through Attribution Driven Insights

Second Grand-Challenge and Workshop on Multimodal Language, **ACL 2020**

Preliminary Version:

Visual Question Answering Workshop, **CVPR 2020**

RESEARCH EXPERIENCE

Bennett University

Summer Research Internship

April 2020 -July 2020

- Studied the effects of Adversarial Attacks on Deep Neural Networks

SILP Lab, IIIT Allahabad

Winter Research Internship

Dec 2019 - Jan 2020

- Worked under the guidance of Dr. Uma Shanker Tiwary in the domain of Computer Vision.
- Implemented Instance Segmentation using Mask Rcn on Pedestrian Detection Dataset in PyTorch.
- Prepared a Comparison report of various backbone architectures with and without MS-COCO pre-training for the instance segmentation model.

ACADEMIC ACHIEVEMENTS

Institute Topper, College of Engineering Pune 2019 - 2020

IIT-JEE Advanced All India Rank : 9208 out of 1,60,000 students.

JEE Mains All India Rank : 9855 out of 12,00,000 students.

Qualified for National Round Of International Olympiad in Informatics

Finalist at IISc Bangalore Data Science Hackathon

Runner-Up at Predictx Deep Learning Challenge

PROJECTS

1. Image Captioning and translation into Indian Languages as a tool for visually impaired people.
[Github Link](#)
2. Comparative study of accuracy obtained on Adversarially trained neural networks on PGD, FGSM, and I-FGSM attacks using Pytorch on MNIST and CIFAR - 10 Datasets.
[Github Link](#)
3. Advanced Data Structures and Algorithms Library in C.
[Github Link](#)
4. Instance Segmentation using Mask Rcn on Pedestrian Detection Dataset in PyTorch.
[Github Link](#)
5. Machine Reading Comprehension using Transformer based models - (Ongoing)

INVITED TALKS

1. Visual Question Answering Workshop, CVPR 2020
[Video Link](#)
2. Vizwiz Grand Challenge Workshop, CVPR 2020
[Video Link](#)
3. Introduction to Computer Vision, DSAI Lecture Series
[Video Link](#)

BLOGS

1. Object Detection and Instance Segmentation: A Detailed Overview
[Medium Link](#)
2. Stability of Network Communities under Adversarial Attacks
[Medium Link](#)

RELEVANT COURSES

Core Courses

Data Structures & Algorithms
Deep Learning Specialization (Coursera)
CS 231n Computer Vision (Stanford Online)
CS 234n NLP (Stanford Online)
Artificial Intelligence

Other Courses

Linear Algebra
Fundamentals of Computer Programming
Multivariate Calculus
Computer Networking
Computer Organization

POSITION OF RESPONSIBILITY

COEP's Data Science and Artificial Intelligence Club

Research Secretary

March 2019 - Present

College of Engineering Pune

- Incharge of Undergraduate Research group working on projects in CV and NLP.

Software Development Section

Core Team Member

July 2020 - Present

- Part of team responsible for developing website for Indian Medical Association using React.js