# Hrithik Sharma

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## EDUCATION

**IIIT, BANGALORE**
Integrated Mtech
in Computer Science
Aug 2018 - Present
CGPA: 3.45 / 4.0

**ARMY PUBLIC SCHOOL**
Allahabad
12th | CBSE
April 2016-March 2017
Percentage: 92.2

**ARMY PUBLIC SCHOOL**
Bangalore
10th | CBSE
April 2014-March 2015
CGPA: 10 / 10

## LINKS

Github: **hrithik-hs**
LinkedIn: **hrithik-hs**
CodeForces: **hrithik.hs77**
CodeChef: **hrithik_hs**

## COURSEWORK

**UNDERGRADUATE**
Data structures and algorithms
Machine learning(ongoing)
Maths for machine learning(ongoing)
Automata Theory(ongoing)
Software Engineering(ongoing)
Database management system(ongoing)
Discrete Mathematics
Design and analysis of Algorithms
Computer Architecture
Computer networks
Digital Design
Linear Algebra | Calculus
Probability | Complex numbers

## SKILLS

**PROGRAMMING**
Languages/Tools:
• C/C++ • Java • Python • JavaScript
• My-SQL • Matlab/Octave • LaTeX
• TensorFlow • Keras • OpenCV
• React • HTML •
Intrests:
• Machine Learning • Deep Learning
• Genetic Algorithm • Data Structure
• Algorithm • Graph Theory

## PROJECTS

### WEBAPP TO COMPARE MACHINE LEARNING CLASSIFIERS
Built using Streamlit and Python
- The WebApp aims at training a machine learning model on Mushroom data set to predict weather the mushroom is poisonous or not.
- The WebApp provides an interface to choose between the different classifiers and tune their respective hyperparametes.
- When classified the WebApp can plot the results in Confusion Matrix , ROC Curve or Precision-Recall Curve.

### IMAGE SUPER RESOLUTION USING AUTOENCODERS
Built in Python using keras
- Used Keras with Tensorflow as its back end to train an autoencoder.
- Used this deep learning powered autoencoder to significantly enhance the quality of images.
- The neural network will create high-resolution images from low-res source images.

### GENETIC ALGORITHM FOR TRAVELLING SALESMEN PROBLEM
Built in Python using PyGame
- Uses Genetic Algorithm to find a Solution for Traveling Salesmen Problem on a Map of Cities.
- Helps easily visualize the usage of genetic algorithm for optimization problems.
- The Program gives an approximate correct answer within reasonable time for up to 30 cities.

### CACHE SIMULATOR FOR A SET-ASSOCIATIVE CACHE
Built in C++
- It assumes a 32 bit address, implements a main memory and an LRU scheme for replacement.
- The main idea behind the scheme is to keep the latest memory access in a cache to minimise Main memory access.

## EXPERIENCE

**ZENSE** | Member
Zense is the Developer Community of IIIT Bangalore.
Organised a Hackathon for 1st year students at IIITB as a part of the club.

## ACHIEVEMENTS

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|---|---|---|
| Google Hash Code 2020 | All India Rank- 35 | Global Rank- 547 |
| CodeForces | (Highest) Rating-1984 | Candidate Master |
| CodeChef | (Highest) Rating-1919 | 4 Star |