

Sachin Yadav

Undergraduate Student, IIT Gandhinagar

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EDUCATION

B.Tech in Computer Science and Engineering, Indian Institute of Technology (IIT) Gandhinagar CGPA: 9.26/10.0	2018 - Present
HSC [Class XII] (CBSE board), Mount Abu Public School, Delhi, India Percentage: 96.0	2017
SSC [Class X] (CBSE board), Mount Abu Public School, Delhi, India CGPA: 10.0/10.0	2015

INTERNSHIPS

Student Trainee, Software R&D, Advanced Technology Lab (ATL) Group, Samsung Research Institute Bangalore Advisors: Poonam Thapar & Dr. Vijay Narayan Tiwari	May 2021 - July 2021
<ul style="list-style-type: none">• Worked on in-situ human action classification based on IR-UWB (Impulse Radio Ultra Wide-band) radar technology for the next-generation Samsung devices.• Devised a data pipeline for adaptive clutter removal and extracting hand-crafted features from raw data.• Designed and trained a CNN architecture achieving 92.37% accuracy on a dataset of multiple room locations.• Received Pre-placement offer for the role of 'Advanced Developer'	
Intern, Contests and Learning Team, CodeChef, Directi	Dec 2019 - May 2020
<ul style="list-style-type: none">• Worked to prepare their certification exam (CCDSAP) and organising external rated contests on the platform.• Managed the MOSS process of contests and adapted custom judges for Interactive problems.	

PROJECTS

Accelerating Deep Learning Training on GPU with Smart Algorithms, Advisor: Prof. Anirban Dasgupta, IIT Gandhinagar	Aug 2021 - Nov 2021
<ul style="list-style-type: none">• This work explores sparse adaptive training of large neural networks using approximate nearest neighbor algorithms HNSW and IVF-PQ index to accelerate training on GPU hardware.• Proposed a variation of Adaptive Sparse training for implementation on GPU.• Implemented the proposed algorithm in PyTorch. The evaluations were done on an industry-scale recommendation system to evaluate the computational gains.	
ProfQuest: Academic Search Engine,	Jan 2021 - March 2021
<ul style="list-style-type: none">• Designed a web crawler to create a dataset of around 72,000 professors and 450 universities using Scrapy and Scrapoxy.• Devised a ranking methodology based on user-specified weights for multiple ranking parameters.• Proposed a modified TF-IDF score method and developed a web application for the search engine.	
OH-SNAP: Optimized Hybrid Scaled Neural Branch Predictor,	Jan 2020 - March 2020
<ul style="list-style-type: none">• Implemented OH-SNAP with dynamic weight scaling and adaptive threshold training on ChampSim.• Built a web interface to run ChampSim and create a hybrid of two independent branch predictors.	
Kick-Out, a two-player strategy game with win predictor,	Jan 2020 - March 2020
<ul style="list-style-type: none">• Conceptualized the game on a 2D board and implemented win predictor using Nimbers.• Developed the static and online version of the game using Express.js, Mongoose and Socket.IO.	

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant** (Prof. Anirban Dasgupta) *Jan 2022 - Present*
Course: Introduction to Data Science.
- **Event Organiser, Amalthea 19, Annual Tech Summit of IIT Gandhinagar** *June 2019 - Oct 2019*
Contest Setter for D'Code, a competitive programming rated contest on CodeChef platform
- **Event Organiser, HackRush, Annual Coding Hackathon of IIT Gandhinagar** *Nov 2018, Jan 2020*
Prepared problem statement of an order processing system for on-campus food outlets and an interactive map for the IITGN campus.

ACHIEVEMENTS AND HONORS

- Featured in **Dean's List** for semesters 1, 2 and 3 for exceptional academic performance at IIT Gandhinagar.
- Selected for the prestigious **KVPY Fellowship**, awarded by the Department of Science and Technology, Government of India in 2016. This Fellowship is awarded to the top ~1000 students from ~100,000 students from all over India.
- Selected for ICPC Indian Regionals Pune-Gwalior 2019.