

Sachin Yadav

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EDUCATION

- B.Tech in Computer Science and Engineering,** 2018 - Present
Indian Institute of Technology (IIT) Gandhinagar
CGPA: 9.25/10.0
- HSC [Class XII]** (CBSE board), 2017
Mount Abu Public School, Delhi, India
Percentage: 96.0
- SSC [Class X]** (CBSE board), 2015
Mount St. Mary's School, Delhi, India
CGPA: 10.0/10.0

INTERNSHIPS

- Student Trainee, Software R&D,** May 2021 - July 2021
Advanced Technology Lab (ATL) Group, Samsung Research Institute Bangalore
Advisors: Poonam Thapar & Dr. Vijay Narayan Tiwari
- 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.
- Intern, Contests and Learning Team,** Dec 2019 - May 2020
CodeChef, Directi
- 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,** Aug 2021 - Nov 2021
Advisor: Prof. Anirban Dasgupta, IIT Gandhinagar
- 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
- 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
- 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
- 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.