

Haarit Chavda

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ACADEMIC DETAILS

Examination	University	Institute	Year	CPI/%
Btech 1st year	Computer Engineering	IIT Gandhinagar	2023-24	8.61

FIELDS OF INTEREST

- Crafting and studying Data Structures and Algorithms, Machine Learning, Deep Learning, Systems and Cyber Security

TECHNICAL SKILLS

- **Languages** (C, C++), **Database** (MySQL, MongoDB) **Script** (Python, JavaScript, Bash), **Tools** (Latex, Make-File, cMake, git), **Others** (Basic-Pentesting).

MAJOR PROJECTS

- **Inverse Molecular Design using JANUS** (Research Project)
(Guide: Prof. Anirban Mondal)
 - Utilized the JANUS library to predict molecules with desired properties.
 - Focused on optimizing the time-consuming fitness function for S1-T1 gap and oscillator strength.
 - Integrated a Transformer model to predict fitness values, significantly reducing computational time.
- **Collaborative Code Editor**
 - Developed a platform replicating the core functionalities of Google Docs in both a code editor and a document editor.
 - Enabled real-time collaborative editing for multiple users using WebSockets.
- **Machine Learning Projects**
 - **Human Activity Recognition:** Implemented a custom decision tree to classify activities such as sitting and walking based on accelerometer data along X, Y, and Z axes.
 - **Image Reconstruction:** Used MLPs for image reconstruction, exploring enhancements with random Fourier features and polynomial features. Incorporated image compression and scaling techniques using MLPs.
 - **Next Word Predictor:** Extended the concept of next-character prediction using MLPs to build a next-word predictor on the *War and Peace* text dataset.
 - **Object Detection and KNN Implementation:** Classified images using the VGG model with varying block sizes and linear MLPs. Implemented both naive and approximate KNN methods, including LSH and KD-Trees, from scratch.

STRENGTHS

- Optimistic, Hardworking, Punctual, Collaboration and Teamwork, Observant

INTEREST AND HOBBIES

- Running / Sprinting
- Exercising
- Solving Puzzles in various forms