

MANVI GUPTA

B22 Gaurikund Hostel North Campus, IIT Mandi HP-175005 (India)

(+91) 7580078791 ✧ manvigupta98@gmail.com

Github://Manvi07 ✧ LinkedIn://manvi-gupta98

OBJECTIVE

I have a strong interest in Computer Science and Mathematics. I wish to develop my skills in practical Computer Science along with a strong theoretical background. I aim to direct my knowledge towards solving challenging problems which can help me learn better.

EDUCATION

RWTH Aachen University, Germany

RWTH Exchange Worldwide

October 2019 - Present

Indian Institute of Technology(IIT) Mandi

Bachelor of Technology, 3rd year

Computer Science & Engineering

August 2017 - Present

CGPA: 9.10/10

TECHNICAL STRENGTHS

Computer Languages

C, C++, Python

Software & Tools

Git, Redmine, CMPL

Web

HTML, CSS, JavaScript, Flask

Machine Learning

Keras, Tensorflow, SciKit-Learn

Other Technologies

PHP, MySQL, Hadoop

PROJECTS

CALL TREE REVERSAL

Using Mixed Integer Programming

October 2019 - Present

Prof. Dr. Uwe Naumann

- **Task:** Extending the existing Mixed Integer Programming (MIP) formulation of Call Tree Reversal with result checkpointing and parallel computation using GUROBI optimizer.
- **Use case:** Debugging (in high-performance scientific computing in particular), Adjoint Model computation in Algorithmic Differentiation
- **Challenges Involved:** Combinatorics knowledge for verifying CTR results

CIF VALIDATOR WITH REST API

A real world tool to validate Crystallographic Information Files (CIF)

April 2019 - June 2019

Dr. Arti Kashyap

- **Task:** Worked in a team of 3 to make a functional RESTful API for validating CIF files.
- CIF File is parsed using PyCODCIF and the frontend is built upon Barebone framework.
- **Collaboration:** In collaboration with the material science group at EPFL Switzerland.

BOOK RENTING SOFTWARE OF IIT MANDI

BookNook, the recreational library at IIT Mandi

August 2018 - January 2019

Prof. Timothy A. Gonsalves

- Revamped a real time **large scale database application** of IIT Mandi.
- Set up a **local Git server** & integrated it project manager Redmine.
- **Results:** An efficient and improved working of the software with consistent Database.
- **Technologies Used:** PHP, MySQL, Git

ADHD DISEASE DETECTION

Deep Learning

January 2019 - February 2019

Dr. Aditya Nigam

- Implemented a Neural Network model to classify **fMRI images** into 10 different components of human brain & find the correlation coefficients.
- **Challenges faced:** Small Data Set & limited knowledge of brain anatomy
- **Technologies Used:** Keras, Tensorflow

RELEVANT COURSEWORK

Mathematical Foundation of Computer Science
Information and Database Systems
Advanced Data Structures and Algorithms
Computer Organization
SAT & SMT Solvers

Machine Learning
MapReduce and Big Data
Satisfiability Checking
High Performance Computing
Parallel Programming

ACADEMIC ACHIEVEMENTS

- 2nd position in Batch of 2017 for Semester III with SGPA 9.0/10
- Selected for RWTH Exchange Worldwide Scholarship based on highest CGPA.
- Teaching Assistant for Information and Database Systems, Feb-June 2020.
- Selected for ACM India Summer School 2019 on Cyber Security and Data Analytics.
- First, among the 7 teams from the college in Flipkart GRiD Machine Learning challenge.
- Ranked in All-India Top 1% (amongst 11,86,000 candidates) in JEE Mains 2017 and Top 2.8% (amongst 1,59,540 candidates) in IIT-JEE Advanced 2017
- Qualified National Talent Search Examination(NTSE) 2015 stage 1.
- Zonal Rank 2 in Mathematics in FIITJEE Talent Reward Exam 2015.

POSITIONS OF RESPONSIBILITY

Founder Coordinator, ACM-W Chapter IIT Mandi

Chairperson, August 2019 - Present

- **Responsibilities:** To guide girl students about opportunities in the field of computing and connect the students to great women leaders of the world. Conducting sessions to motivate them and make them aware of all the upcoming and existing opportunities in their field.
- **Vision:** Increase girls participation in technical field and broaden the coding community.

OTHER ACHIEVEMENTS

- Runner up in STAC Hackweek-2018 held at IIT Mandi.
- Runner up in Hostel Day coding competition.
- Winner of Intra College mobile photography competition 2017.

EXTRA-CURRICULARS

- Active member of WISE-Women in Science & Engineering IIT Mandi.
- Member of Literary Society & IEEE Student Chapter, IIT Mandi.
- Represented IIT Mandi at Inter IIT Cultural Meet 2017.
- Sponsorship team member for Exodia-2018(Tech-Cult Fest of IIT Mandi).