

# MANAN GOEL

@ manan.goel@research.iiit.ac.in

manangoel99.github.io

github.com/manangoel99

## EXPERIENCE

---

### Undergraduate Researcher

#### CCNSB, IIIT Hyderabad

May 2019 – Present      Hyderabad, India

- Finding different Machine Learning Applications to solve Computational Chemistry Problems like drug discovery and retrosynthesis.

### AI/ML Intern

#### PredOmix

September – Nov 2020      Remote

- Computer aided drug design using Machine Learning to generate drug compounds with the lesser toxicity while making them more effective in binding to the target.

### Intern

#### Google Summer of Code (Open Chemistry)

June 2020 – August 2020      Remote

- Implemented an API for using ANI style neural networks in C++ in RDKit, a cheminformatics toolkit as an extension of the current implementation of the package's ForceField API.
- This included storing and parsing serialized weights of the NN as well as forward and backward propagation.
- Implemented python wrappers for the required modules.

### Web Development Intern

#### Khaata.in

May – July 2019      Remote

- Help in the initial implementation of the product which required extensive pre-processing of transaction data in CSV format for presentation to the users.
- Implement functional and unit tests for the web app inside a sandbox docker container using pytest and Selenium in production environment.
- Wrote all the documentation at the time for ease of future developers.

## ACHIEVEMENTS

---

- Recipient of the prestigious KVPY fellowship.
- Secured AIR 2543 in JEE Main 2017.
- Winner of Megathon (India's Largest student organized hackathon) 2019 in which my team had to design a big data processing pipeline taking into account both software and hardware optimizations.

## SKILLS

---

### Programming Languages

C++, Python, JavaScript, C, GoLang, BASH, JAVA

### Frameworks

Pytorch, Numpy, Scikit-Learn, ReactJS, OpenGL, WebGL

### Miscellaneous

Latex, Git, MySQL

## PROJECTS

---

### Wikipedia Search Engine

- A search engine on the wikipedia dump containing approximately 65 GB of articles stored as xml files.
- The xml files are parsed and articles are pre-processed and cleaned to create an inverted index.
- Querying on the inverted index using TF-IDF for ranking.

### POSIX Shell

- An implementation of the **POSIX Shell from scratch in C** using only system calls.
- Functionalities include basic shell commands including commands for process management along with a few custom commands.

### EdVid

- A flask based webapp for annotating videos with face detection along with emotion annotation in 7 classes.
- Integrated a pre-trained CNN model which asynchronously labels each frame on different CPU cores using the ray library. All database transactions are also kept asynchronous using a celery queue.
- The server, Postgres database, redis store etc. were deployed in docker containers and MLOps were used to deploy the ML model.

## EDUCATION / COURSES

---

### Bachelor of Technology

#### International Institute of Information Technology

August 2017 – Present

- Teaching assistant** for Advance Biomolecular Architecture and Computing in Sciences which involved teaching, making and grading assignments and exams.
- Dean's Merit List:** Awarded to top 3% of the class.

### Senior Secondary School

#### St. Theresa's Convent School

2003 – May 2017

## POSITIONS OF RESPONSIBILITY

---

- Head of the Open Source Development Group of IIIT Hyderabad
- Placement Coordinator at IIIT Hyderabad
- PyConf Hyderabad 2019 Core Team Member