



Gunjan Dhanuka

Roll No.:200101038

B.Tech - Computer Science and Engineering

Minor in Robotics and Artificial Intelligence

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology, Guwahati	8.95 (Current)	2020-Present
Senior Secondary	CBSE Board	97.6%	2020
Secondary	ICSE Board	97.5%	2018

EXPERIENCE

- **UNSW - CSIRO, Australia** Nov 2021 - Ongoing
Research Intern under the supervision of Prof. Rohitash Chandra and Prof. Vasan Remote
 - Visualizing **graph representation** of Protein Structures of various Virus Strains of **SARS Cov-2**.
 - Analysing **Node and Edge Centralities** to understand and predict significant mutations in the strains.
 - Considering **Graph Neural Networks** and algorithmic techniques to construct **optimally weighted protein graphs**.

PROJECTS

- **T2I2T - Text to Image to Text** Ongoing
IITG.ai, AI Community of IIT Guwahati
 - Using Image Captioning with **Attention Models** to get text captions for images.
 - Also, using a **Generative Adversarial Network (GAN)** to generate images from the input text.
 - Deploying these two networks as part of a **web app** accessible to everyone.
- **PokeDex Web App (Classify an image into one of 150 Pokemon classes)** Sept 2021
Personal Project git.io/pokedex
 - Dataset of over **7000 images** was cleaned and augmented for greater accuracy.
 - Transfer Learning using the **DenseNet 201 Architecture** was employed for multiclass classification.
 - Deployed using **Streamlit and Heroku** for public usage. [Live app here!](#)
- **IITG Access App** Oct 2021
Students Web Committee, IIT Guwahati git.io/iitgaccess
 - Working on developing app for IIT Guwahati campus to **digitalize the process of Mess Cards**.
 - Used **Flutter** for the app and **Firebase** as backend service. Generates **encrypted QR Code** and currently under testing in the campus.
- **Covid-19 Statistics Tracker Web Application** Jan 2021
Personal Project git.io/covidtrackerapp
 - Built with **React-JS** to track the number of **active cases, recovered and deaths** due to Covid-19.
 - Fetches most recent data from API and used **Chart-JS2 and Material-UI** to show the data responsively.
- **Tomato Disease Classification using CNN** Aug 2021
Personal Project git.io/tomatodiseasecnn
 - Collected data from the PlantVillage Dataset containing **12,768** images classifying Tomato leaves into **8 classes**.
 - Predicted the presence of various diseases like *Early, Late blight, Mold, Spider Mite and Curl Virus*.
 - Used CNN Architecture which achieved a test set accuracy of **90 percent in 10 epochs**.

ACHIEVEMENTS

- **Reliance Foundation Scholar in CS and AI**, Selected among 37 undergraduate students from IITs and NITs. 2021
- **Team Rank 363 at ICPC Regionals 2021**, Competitive Programming Competition for college students. 2021
- **All India Rank 382**, Joint Entrance Examination Mains 2020 among 0.9 million candidates. 2020
- **All India Rank 469**, Joint Entrance Examination Advanced 2020 among 0.25 million shortlisted candidates. 2020
- **KVPY Fellowship**, Selected for the National Research Scholarship by the Department of Science and Technology in the SX Stream. 2020

KEY COURSES TAKEN

- **Computer Science:** Data Structures and Algorithms, Digital Design, Discrete Mathematics
- **Mathematics:** Linear Algebra, Basic Calculus, Probability & Random Processes
- **MOOC's:** Deep Learning Specialisation (by deeplearning.ai) ** Ongoing*

TECHNICAL SKILLS

- **Programming:** Python, C/C++, Dart, Java*
- **Development:** Flutter, React*, Node.js*, Firebase
- **Tools/Frameworks:** Keras, Tensorflow, PyTorch*, Git, Qiskit*
- **Operating Systems:** Windows, Linux ** Elementary proficiency*

POSITIONS OF RESPONSIBILITY

- **Co-ordinator,** Coding Club, IIT Guwahati *Present*
- **Technical Co-Ordinator,** Computer Science & Engineering Association(CSEA), IIT Guwahati *Present*

EXTRACURRICULARS

- **Member of IITG.ai,** The Artificial Intelligence Community of IIT Guwahati.
- **Brain Boosters National Abacus Competiton,** Won National Rank 1 and 3 in consecutive years.
- **Aqua Regia School Quiz 2017,** Selected among top 8 teams for National Finals among schools all over India.
- **Wiz National Spell Bee,** Secured State Rank 1 and National Finalist.
- **Dramatics,** Part of Xpressions, acted in a monologue as part of Monologue Carnival.
- **Team Technothlon,** Part of the Question Paper Module for the biggest international examination for school students, conducted by students of IIT Guwahati.
- **Subject Matter Expert Edvizo,** Taught Physics to underprivileged high-school students appearing for competitive exams like JEE and NEET.