



# Gunjan Dhanuka

Roll No.:200101038

B.Tech - Computer Science and Engineering

Minor in Robotics and Artificial Intelligence

Indian Institute Of Technology, Guwahati

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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 Sydney & CSIRO, Australia** Nov 2021 - Ongoing  
*Research Intern under the supervision of Prof. Rohitash Chandra and Prof. SS 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.

## 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.
  - Using the **DALL-E Mini** model to generate images from specified text input.
  - **VQGAN Encoder** and **BART Encoder-Decoder** architectures were used for the latter part.
- **Covid Management System Dashboard** Jan 2022  
*Research and Industrial Conclave Hackathon, IIT Guwahati (Winning submission)* git.io/covidcareiitg | Live link.
  - Developed a **Django application with user logins** for Admin, Doctors, Shopkeepers and Campus Residents.
  - **Realtime updation** of list of positive, quarantined and discharged patients with **interactive dashboard**.
  - Request Testing, ordering essentials, scheduling appointment features available.
- **PokeDex Web App (Multiclass Image Classification)** Sept 2021  
*Personal Project* git.io/pokedex | Live link
  - Dataset of over **7000 images** was cleaned and augmented for greater accuracy.
  - Transfer Learning using the **DenseNet 201 Architecture** was employed for multiclass classification.
- **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 UI of 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.

## ACHIEVEMENTS

- **Xth InterIIT Tech Meet**, Received Silver Medal in the Bosch Model Extraction High Prep Event. 2022
- **Reliance Foundation Scholar in CS and AI**, Selected among 37 undergraduate students from IITs and NITs. 2021
- **Research Conclave 2022 Hackathon**, Won first prize for developing Covid-management Django website. 2022
- **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

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- **Computer Science:** Data Structures and Algorithms, Theory of Computing\*, Database Management Systems\*, Computer Architecture and Organization\*
- **Mathematics:** Linear Algebra, Basic Calculus, Probability & Random Processes
- **MOOC's:** Deep Learning Specialisation (by deeplearning.ai), Generative Adversarial Networks\* *\* Ongoing*

## TECHNICAL SKILLS

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

## POSITIONS OF RESPONSIBILITY

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

## EXTRACURRICULARS

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- **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 Technothon,** 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.