

SAMARTHYA GOYAL

+91-7597721337 20ce02003@iitbbs.ac.in LinkedIn github

Aspiring graduate in Civil and Structural Engineering from IIT, Bhubaneswar, passionate about Machine Learning & Computer Programming. Worked with international students from NYU to develop a design infringement detection system for STL files. Strengths include analyzing and visualizing data, prioritizing actions and communicating clearly. In-depth knowledge of Designing Reinforced Concrete Structures(RCC), roads & roads safety, AutoCAD, Fusion360, SolidWorks, Python (including libraries), SQL, HTML/CSS, C++, Machine learning, deep learning, NLP, Neural networks(ANN, CNN), various classification & regression models.

Education

Indian Institue of Technology Bhubaneshwar <i>Bachelor of Technology, Civil Engineering - CGPA - 8.75/10</i>	11/2020 – Present <i>Bhubaneshwar, India</i>
Bright India Public School, Ajmer <i>AISSCE - CBSE(Class XII) Percentage - 93%</i>	05/2020 <i>Ajmer, India</i>
St. Anselms' Sr. Sec. School, Ajmer <i>AISSCE - CBSE(Class X) - Percentage - 92.6%</i>	05/2018 <i>Ajmer, India</i>

INTERNSHIPS

New York University, Tandon School of Engineering <i>Research Associate Intern, Cybersecurity in Additive Manufacturing</i>	06/2022 - 08/2022 <i>Remote</i>
<ul style="list-style-type: none">• Supervisor: Prof. Nikhil Gupta• Project # 1 - Cybersecurity in Additive Manufacturing:<ul style="list-style-type: none">* Research Project aimed to develop a design infringement detection system for STL files. The primary goal is to determine how many “copied” components are being used in the STL assembly file, given an STL assembly file and a set of components in STL format.* Develop software using Python libraries (STL, NumPy, Pandas) to compare two models to detect infringement* Developed 3-D models for testing visualization for infringement detection software• Project # 2 - Protecting the 3-D CAD file from malicious attacks:<ul style="list-style-type: none">* Project focused on protecting the 3-D CAD file from malicious attacks by hackers or a group of criminals using various types of encryption techniques and methods. Making Various Heat maps to depict relation between different types of threats to a firm (Small or Big) by various personnel (Competitors, Workers, Nations, etc.)* Develop hidden features & watermark for protection of 3-D model (CAD files)* Developed encrypted system for 3-D model files to protect from attack. Advanced Encryption Standard was used to develop this system* Constructed various Heat Maps for depicting the relation between the factors affecting the production of 3-D model different personnel around the production	

Skills and Tools

Languages: Python(Numpy, Pandas, Matplotlib, Seaborn, Scikitlearn), C, C++, HTML, CSS, SQL

Microsoft Office: Word, Excel, Powerpoint, Outlook

Sotwares: AutoCAD, Fusion360, SolidWorks, Ultimaker Cura

Interpersonal Skills: Problem solving with collaboration, Motivated learner – curious and eager, Team responsibility, Effective organization communication

Relevant Courses and Certificates

• Machine Learning A-Z - Udemy	• The Complete SQL Bootcamp - Udemy	• MicroEconomics	• Statistics for Data Science and Business Analysis - Udemy
• Probability, Statistics and Stochastic Processes	• Python for Data Science and Machine Learning - Udemy	• Tableau 2022 A-Z - Udemy	
• Envirnomental Economics		• Deep Learning A-Z - Udemy	

Leadership / Extracurricular

- * **Played District Level Karate, 2016 and 2017:** Senior State-Level Karate championship at DBN School, Ajmer.
- * **Member, Social Welfare Society (Souls for Solace):** Planned and coordinated with authorities to plan and execute Social Welfare Works. Village Development Program in 2 villages of Bhubaneswar. Conducted Sanitation Awareness program; Medical camp; Water filtration; Tree plantation.
- * **Blood Donation Camp, IIT Bhubaneswar :** Volunteer and blood donor.
- * **Clean India Green India 2020; IIT-CYCLOTHAN 2020:** Organized the event to spread message of environmental protection.