

SAMARTHYA GOYAL

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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, Frontend Technologies(HTML, CSS, JavaScript, ReactJS), Backend Technologies(Nodejs, APIs, Databases), C++, Machine learning, deep learning, NLP, Neural networks(ANN, CNN), various classification & regression models.

Education

Indian Institue of Technology Bhubaneswar <i>Bachelor of Technology, Civil Engineering - CGPA - 8.75/10</i>	11/2020 – Present <i>Bhubaneswar, 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: 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.<ul style="list-style-type: none">* 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: 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.)<ul style="list-style-type: none">* 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	

In Time Tec <i>Summer Intern, Full Stack Web Developer</i> Supervisor: Mr. Pritam Kumar, Mr. Himanshu Gupta S	05/2023 - Present <i>Jaipur</i>
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Projects

Bangalore House Price Prediction

Project aims to develop a Machine Learning Model to accurately predict the house/property prices in the city of Bangalore using Supervised Machine Learning.

- Developing a Machine Learning Model using Multiple Linear Regression
- Tuning of the parameters was done using the RMSE cost function and GridSearchCV

Research Projects

Optimization of Battery Cycle and Battery Life Prediction

01/2023 - Present

Supervisor: Dr. Kisor Kumar Sahu, IIT Bhubaneswar;

Research Project aims to develop a Machine Learning Model to accurately predict the Battery Cycle Life and the parameters affecting the same.

Developing a Machine Learning Model using Regression models(Elastic Net Regression) for predictions. The model is also being developed with hyper-parameter tuning and use of Neural Networks

Testing various battery cells to identify the factors/features that affect battery cycle life

Skills and Tools

Languages: Python(Numpy, Pandas, Matplotlib, Scikitlearn), C, C++, HTML, CSS, JavaScript, ReactJS, MongoDB, SQL

Microsoft Office: Word, Excel, Powerpoint, Outlook

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

Leadership / Extracurricular

Secured 1st Postion in a couple of Astronomy Competitions: Inter-Branch Competition at IIT Bhubaneshwar.

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 Bhubaneshwar. Conducted Sanitation Awareness program; Medical camp; Water filtration; Tree plantation.

Blood Donation Camp, IIT Bhubaneshwar : Volunteer and blood donor.

Clean India Green India 2020; IIT-CYCLOTHAN 2020: Organized the event to spread message of environmental protection.