

Soujatya Sarkar

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EDUCATION

B.Sc. (Hons.) in Data Science and Artificial Intelligence 2023-2027

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

CPI: N.A.

Coursework (ongoing): Basic English, Data Analysis, C Programming, Statistics, Linear Algebra, Data Science: Intro, Python Programming, Computer System Tools, AI Basics, Data Structures, Algorithm Design and Analysis, R Programming.

Mode of Delivery: Online (Video lectures, Live lectures, Proctored assessments).

B.Tech. in Chemical Technology

2019-2023

UNIVERSITY OF CALCUTTA

CGPA: 7.70

Coursework: Basic Computer Engineering, Basic Electrical Engineering, Basic Electronics, Engineering Mathematics, Statistics, Modeling & Simulation, Numerical Analysis, Chemical Engineering, Nanotechnology, Material Science.

Higher Secondary Education

2017-2019

HARIYANA VIDYA MANDIR

#: 76.25%

Coursework: English, Physics, Chemistry, Mathematics, Computer Science.

Secondary Education

2013-2017

ST. XAVIER'S COLLEGIATE SCHOOL

#: 90.40%

Coursework: English, Science, Social Studies, Mathematics, Computer Applications.

SKILLS

Key Skills: Artificial Intelligence, Data Science, Computational Methods, Signal Processing and Analysis, NLP, Computer Vision, App-Game-Web Development.

Programming Languages: Python, R, Java, C++, C, JavaScript, HTML, CSS, PHP, SQL.

Frameworks: Flutter, OpenCV, TensorFlow, WordPress.

Simulation & Modeling: Figma, Blender, AutoCAD, Autodesk Fusion 360, MATLAB.

IDEs: Unreal Engine, MS Visual Studio, Android Studio, VSCode, PyCharm, IntelliJ.

Technical Software: Adobe Creative Cloud, FL Studio, Microsoft Office, OBS.

Operating Systems: Windows, MacOS, Linux.

EXPERIENCE

BOSE INSTITUTE | GUEST RESEARCHER

Kolkata, IN | 2023

- Working under the guidance of Prof. Subhrangsu Chatterjee on "Prediction of the 3D molecular structure of a protein from the 2D image of the molecule".
- Working with Dr. Trina Sengupta to develop an ML algorithm predicting sleep efficiency from cortical arousals which are detected from raw EEG sleep data.

ADITYA BIRLA INSULATORS, LTD. | SUMMER TRAINEE

Howrah, IN | 2022

Worked at the Rishra plant of Aditya Birla Insulators, Ltd. under the supervision of Dr. Gobinda Pahari, on building a model which can predict the approx. amount of CMC & water required to adjust the virgin Brown Glaze to production standards.

- Created samples of production glaze in the laboratory and collected the additive addition data.
- Built an ML model using Scikit-Learn and created an application based on the model using Tkinter and Python.

DATA SCIENCE LAB, AKCSIT | RESEARCHER

Kolkata, IN | 2022

Worked on further developing the Easy Query Language, a NoSQL lightweight database language that I had previously developed as a high school project. The main development areas of the language are scalability and syntax style.

PROJECTS

EASY QUERY LANGUAGE [↗](#)

C++, PYTHON

A No-SQL lightweight database language, coded in C++, which works seamlessly with multiple tables and is equipped with quick and short commands. Further development on the aspects of scalability and syntax writing is ongoing to make the project's foundation stronger. The source code is undergoing a complete shift to Python.

GLAZE ADDITIVE PREDICTOR [↗](#)

PYTHON, SCIKIT-LEARN, PANDAS, TKINTER

A GUI application based on a prediction model that statistically predicts the amount of CMC and water required to adjust the parameters of Density and Fluidity of virgin Brown Glaze to the required standards as provided by the user. The application is available on my GitHub repository for both Windows(x64) & macOS(universal). This project was carried out at Aditya Birla Insulators, Ltd.

PIEZO-ELECTRIC MOTION SENSING LIGHT ALARM

SELF DEVELOPED ELECTRONIC DEVICE

Developed a PZT-based motion-sensing LED light alarm as my High School project.

PUBLICATIONS

STATISTICAL PREDICTION OF THE AMOUNT OF CMC AND WATER REQUIRED TO ADJUST THE PARAMETERS OF BROWN GLAZE [↗](#)

Soujatya Sarkar and Sudip Kumar Das. *Proceedings of the 108th Indian Science Congress*. (Figshare, 2023); DOI: 10.6084/m9.figshare.22822136

ADVANCED SPIKE SORTING APPROACHES IN IMPLANTABLE VLSI WIRELESS BRAIN COMPUTER INTERFACES: A SURVEY [↗](#)

Soujatya Sarkar. (arXiv, 2023); DOI: 10.48550/arXiv.2309.00913

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GLAZE ADDITIVE PREDICTOR [↗](#)

SOUJATYA SARKAR

REG. NO.: SW-16128/2023

COMPUTER SOFTWARE WORK

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NOTABLE CERTIFICATIONS

MACHINE LEARNING [↗](#)

STANFORD UNIVERSITY ONLINE

Grade: 100.00%

COURSERA

Coursework: Linear Regression, Logistic Regression, Regularization, Neural Networks, Machine Learning Systems Design, SVMs, K-Means Clustering, Anomaly Detection, Large Scale Machine Learning, Sample Project on Photo OCR.

NEURAL NETWORKS AND DEEP LEARNING [↗](#)

DEEPLARNING.AI

Grade: 99.50%

COURSERA

Coursework: Deep Learning Foundations, Logistic Regression as a Neural Network, Vectorization, Shallow Neural Networks, Deep Neural Networks.

GOOGLE DATA ANALYTICS SPECIALIZATION [↗](#)

GOOGLE

Grade: 97.40%

COURSERA

Courses: Process Data from Dirty to Clean; Google Data Analytics Capstone: Complete a Case Study; Share Data Through the Art of Visualization; Prepare Data for Exploration; Foundations: Data, Data, Everywhere; Ask Questions to Make Data-Driven Decisions; Data Analysis with R Programming; Analyze Data to Answer Questions.

ACCOMPLISHMENTS

GENERAL SECRETARY

2022-2023

Calcutta University Students' Union (TMCP) - Rajabazar Campus.

CODECHEF JANUARY LONG CHALLENGE

World Rank:22

Ranked 1st in my university and 22nd in the world in the CodeChef January Long Challenge (Division C) by scoring 752/800.

CORE TEAM - INSTRUCTOR

2019-2022

Google Developer Students Club, Chapter - University of Calcutta.

108th INDIAN SCIENCE CONGRESS - NAGPUR

2023

Full Paper Presentation - *Statistical Prediction of the amount Of CMC And Water required to adjust the parameters of Brown Glaze.* [preprint available: *Figshare*]

GOOGLE EXPLORE ML: BEGINNER & INTERMEDIATE

2019

IEM - DEVELOPMENT OF AI & AUTOMATION SYSTEM

2019