

# CHIRANTAN GANGULY

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## RESEARCH INTEREST

- (i) Embedded Systems Design;
- (ii) Biomedical Electronics;
- (iii) Deep Learning;
- (iv) Robotics;
- (v) Computer Architecture.

## PERSONAL PROFILE

I am a third year Electronics and Communication Engineering undergraduate student at Institute of Radio Physics and Electronics, University of Calcutta, with a decent academic background. I am looking forward to work diligently under the able guidance of industry experts to further my knowledge and career.

## EDUCATION

**University of Calcutta** • Kolkata, India August 2019 – Present  
*Bachelor of Technology • Electronics & Communication Engg. • CGPA: 9.79/10*  
Rank in Department – 1

**St. Thomas' Church School** • Howrah, West Bengal, India 2019  
*Class XII • Indian School Certificate Examination (ISC) • Percentage : 92.25%*

**St. Thomas' Church School** • Howrah, West Bengal, India 2017  
*Class X • Indian Certificate of Secondary Education (ICSE) • Percentage : 95.6%*

## WORK EXPERIENCE

**Research Intern** May 2021 – Present  
Centre for Development of Advanced Computing (C-DAC), Pune, Maharashtra, India

- Reviewed articles employing Deep Learning to study the impact of the pandemic on physical and mental health of people. Two book chapters were written on our review which have been accepted for publication.
- Explored methods for better localisation in Indoor scenario where GPS do not yield accurate results using Machine Learning algorithms from Received Signal Strength (RSSI) values from Wifi routers. Currently working on writing the article for the same for publication.
- Initiated work on the development of a robust and deployable AutoML package for Python to make writing Machine Learning code a whole lot easier.

**Research Associate** – Young Scientist Program (YSP) June 2021 – August 2021  
Blue Marble Space Institute of Science (BMSIS), Seattle, Washington, USA

- We looked into the fundamentals of communication and information exchange from cells to animals to humans and artificial systems such as AI.
- We tried to understand the role of communication plays for collective behavior in species and for the adaptation and selection of species in general.
- We used information theory, agent-based modeling and natural language processing to analyze datasets such as those of gorilla calls, dolphin languages and mycelial networks.
- Had to complete ethics module (a discussion on a topic attracting conflicting views) and communication module (publishing articles for BMSIS website) for successful completion of the program.

## POSITIONS OF RESPONSIBILITY

**Lead** Nov 2020 – Present  
*CodeClubCU(); – CodeClub of University of Calcutta (Supported by CodeChef)*

- Teaching beginners about Data Structure and Algorithms, and increasing Code Literacy in Campus.
- Setting and testing problems for intra and inter college coding contests
- Hosting various talk events organised by CodeClubCU(); with distinguished Alumnus and Leaders in the Industry
- Appointing and managing Executive Team Members of CodeClubCU();
- Growing the chapter by increasing reach.

**Technical Team Lead** Jun 2020 – Jan 2021  
*Hult Prize*

- Developed Hult Prize Campus Chapter Website for University of Calcutta
- Managed other members of the Technical Team

## PROJECTS

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### e-Yantra Robotics Competition

Mar 2021

*IIT Bombay*

- Programmed and simulated UR5 arms to work in fully automated warehouse scenarios
- Developed a dynamic dashboard using Web development techniques for dynamically updating and showing all relevant in formations required in a shipping scenario.
- Project Demonstration: [www.youtube.com/watch?v=QIGFrAWsTJA](https://www.youtube.com/watch?v=QIGFrAWsTJA)
- Skills used: Python, ROS Melodic, Gazebo, Computer Vision, IOT, Ajax

### COVID'19 Automated Screening Machine

Sept 2020

*Department of Biotechnology, Ministry of Science and Technology , Govt. of India*

- Automated the temperature based screening task for COVID'19 screening.
- Detect and alert whenever a person is in between the range of 10cm to 20cm in front of the machine.
- Measures his/her temperature
- It should measure temperature only when someone is detected not all the time.
- If the temperature is high, then a buzzer & RED LED should be turned on, to alert Gatekeeper.
- If the temperature is normal, then it should turn on the GREEN LED.
- It should spray sanitizer whenever hands are placed below a knob/a fixed point
- Display all relevant things over the LCD & Serial Monitor simultaneously.
- Count of the number of person currently inside should be maintained and displayed properly.
- Tinkercad Simulation Link: [www.tinkercad.com/things/3I1yRh8UKWp](https://www.tinkercad.com/things/3I1yRh8UKWp)

### Exploring BRFSS data

Jul 2020

- Used the Behavioral Risk Factor Surveillance System (BRFSS) data to answer 3 research questions using data visualizations, using R programming Language.
- "Among non-institutionalized adults in the US, are there any differences in alcohol consumption between veterans and non-veterans. The results could indicate whether veterans are at a lower or higher risk of alcohol addiction."
- "Among non-institutionalized adults in the US, Is a respondent's Body Mass Index (BMI) affect their chances to get depressive disorders? Is there any difference between genders? "
- "Among non-institutionalized adults in the US, are there any differences in general health condition depending on the the income level of the individual."
- GitHub Repository: [github.com/ChirantanGanguly/Exploring-BRFSS-data](https://github.com/ChirantanGanguly/Exploring-BRFSS-data)

## TECHNICAL & COMMUNICATION SKILLS

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- IDE: Google Colab, Anaconda, Visual Studio Code, Arduino, RStudio
- Programming Languages: Python, R, MATLAB, C/C++, LaTeX
- Softwares: MATLAB/Simulink, COMSOL, LTspice/Pspice, Gazebo, Microsoft Office
- Natural Languages: English, Bengali, Hindi

## CERTIFICATES

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- Machine Learning with Python - IBM
- ExploreML Intermediate Track - Google
- Managing Machine Learning Projects with Google Cloud - Google Cloud
- Data Science: Foundations using R Specialisation - Johns Hopkins University
- Python Intermediate Certificate - HackerRank
- VLSI System On Chip Design - Maven Silicon

## SELECTED COURSEWORK

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- Artificial Intelligence & Machine Learning, Computer System Architecture & Organisation, Advanced Programming Language, Analog & Digital Electronics, Signal Analysis & System Design, Satellite Communication, Antennas and Radio Wave Propagation for Long Distance Communication, Analog & Digital Communication, Electronic Devices

## PROFILE LINKS

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- LinkedIn: [www.linkedin.com/in/chirantan-ganguly](https://www.linkedin.com/in/chirantan-ganguly)
- Github: <https://github.com/ChirantanGanguly>