

# CHIRANTAN GANGULY

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## RESEARCH INTEREST

Second year Electronics and Communication Engineering student from University of Calcutta (Department of Radio Physics and Electronics) with keen interest in the domain of digital signal processing, emphasizing on encoding and decoding processes of high-quality video bitstream using AVC/SVC video codecs. Also interested in the domain of fabrication and development of MEMS based Biochips for various biomedical applications.

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## OBJECTIVE

To work in association with revered scientists and researchers, improving my skills and furthering my career in the domain of Research & Development.

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## 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%*

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## WORK EXPERIENCE

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

- We look at the fundamentals of communication and information exchange from cells to animals to humans and artificial systems such as AI.
- We try to understand what is the role of communication for collective behavior in species and for the adaptation and selection of species in general.
- We will use information theory, agent-based modeling and natural language processing to analyze datasets such as dolphin languages or DNA signals.

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

- Developed a well functioning ready to deploy video streaming web server, with both recorded video streaming, and live streaming abilities.
- Studied the functioning and relevance of H.264/MPEG-4 SVC video scalability standard after the deployment of 5G technology

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## 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

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## PROJECTS

**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

*Ministry of Biotechnology, 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](http://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 nonveterans. 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)

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**TECHNICAL & COMMUNICATION SKILLS**

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

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**SELECTED COURSEWORK**

- Network Theory (Analysis and Synthesis) , Signal Analysis and System Design, Control Theory, Antennas and Radio Wave Propagation for Long Distance Communication, Artificial Intelligence & Machine Learning, Electron Devices, Materials and Physical Electronics

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**PROFILE LINKS**

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

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**AREAS OF INTEREST**

- Digital Signal Processing • MEMS Device Fabrication • Optoelectronic & Photonic Devices