Chirantan Ganguly

41/4, Brindaban Mullick Lane, Kadamtala, Howrah, West Bengal, India 711101
(+91) 9330192247 • chirantanganguly01@gmail.com • www.linktr.ee/chirantan

Research Interest

(i)Digital Signal Processing;
(ii)Analysis and Interpretation of multi modal signals;
(iii)Bio-Medical signal processing;
(iv)Application of Machine Learning and Deep Learning in disease classification and prediction;
(v)Applications of game theory in the study of complex systems.

Personal Profile

I am a second 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 revered researchers, professors, to enhance my knowledge and experience in the field of Research & Development.

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 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 streaning, and live streaming abilities.
- Studied the functioning and relevance of H.264/MPEG-4 SVC video scalability standard after the deployment of 5G technology
- **Side Projects:**
  Authoring Book Chapters on:
  (i) Application of Machine Learning Algorithms to study Mental Health during COVID'19 pandemic.
  (ii) Using Machine Learning to study Electronics Health Records (EHR) to answer relevant research questions related to COVID'19 pandemic.

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

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
- 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

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

Technical & Communication Skills

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

Selected Coursework

- Analog Electronics, Digital Electronics, Signal Analysis and System Design, Artificial Intelligence & Machine Learning, Antennas and Radio Wave Propagation for Long Distance Communication, Analog Communication, Electronic Devices, Materials and Physical Electronics

Profile Links

- LinkedIn: www.linkedin.com/in/chirantan-ganguly
- Github: https://github.com/ChirantanGanguly