Oindrila Ghosh

Chemical Engineering undergraduate at BITS Pilani

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Education

Degree/ Examination	Stream/Discipline	Institution	Country	Duration	Grade
Bachelor of Engineering (B.E.)	Chemical Engineering	Birla Institute of Technology and Science, Pilani	India	August 2018 - June 2022 (Expected)	8.38/10.00 (83.8%)
ISC (Class 12th)	Science	Delhi Public School Megacity, Kolkata	India	2017 - 18	96.75%
ICSE (Class 10th)	Science	Delhi Public School Megacity, Kolkata	India	2015 - 16	97.8%

Academic Courses

Molecular Dynamics Simulations, Bio & Chemical Sensors, Material Science and Engineering, Polymer Chemistry, Engineering Chemistry, General Chemistry, Fluid Mechanics, Electrical Sciences, Computer Programming

Other skills and tools: MATLAB, Autocad, COMSOL, CFD ACE, Java, Python, Frontend development, C, C++

Projects

1. Polymer Blend Membranes

Under guidance of: Dr. Jegatha Nambi Krishnan (BITS Pilani)
Duration: December 2020 - Present

- This is an on-going semester-long lab oriented project. The aim is to learn more about polymer blend membranes, with emphasis on BMNCs, and use CFD ACE for simulation purposes.

2. Electrospun Nanofibers in Wearable Sensors

Under guidance of: Dr. Richa Singhal (BITS Pilani)
Duration: August 2020 - December 2020

- Conducted extensive literature review to learn more about the different nanofiber fabrication techniques, with special emphasis on electrospinning.
- Learned about the various kinds of sensors, actuators and harvesters and their use in different kinds of wearable technologies.

- Studied the use of different popular piezoelectric materials like PZT, PVDF-TrFE and PAN in wearable applications like skin conforming mat based health monitoring systems, HMIs, shoe embedded sensors, etc.

3. Simulation of a "Green Gym" (with piezoelectric material based equipment)

Under guidance of: Dr. Anirban Roy (BITS Pilani)
Duration: August 2019 - November 2019

- A green gym is a model gym which does not require any energy input. Instead, it produces electricity from the work done on the equipment by the gymers. The idea is to use piezoelectric material to generate electricity from the mechanical work done on them; and then store it for future use.
- Studied the feasibility and the overall benefits of using such equipment.
- Developed a code to simulate such a gym; and used it to draw inferences on the ideal set up in terms of energy usage and economic benefits.

Work Experience

1. Web Development Intern - The Pangean

Duration: July 2020 - September 2020

- Worked on the front-end of a web application to automate the entire process of article writing, editing, proofreading and publishing. The platform is also capable of maintaining databases of articles and comments left by readers on The Pangean's website, among other features.
- Tech stack used: MERN stack

2. Research Intern - Atomic Energy Regulatory Board (Nuclear Safety Analysis Division)

Under guidance of: Dr. Aniket Gupta (Scientific Officer at AERB, Mumbai, India)
Duration: May 2020 - June 2020

- Studied the components and the working of the nuclear reactor core and the containment chamber of nuclear power plants in India.
- Developed the thermo physical property module for the containment code (a proprietary package capable of simulating the containment chamber) using Fortran 95.

Certifications

1. Nanosensors and Nanotechnology 1 (Israel Institute of Technology) [Offered on Coursera]
2. Nanosensors and Nanotechnology 2 (Israel Institute of Technology) [Offered on Coursera]

Extra Curriculars

I am currently the Editor-in-Chief of the Department of Journalism and Media Affairs, a student run department of BITS Pilani. I also write articles for various websites including The Pangean. I am an avid debater and a member of the Literary and Debating Club of BITS Pilani. I have also won the SLS British Parliamentary Debate Tournament'19 (Novice Category). I also frequently volunteer at different organisations like Muskurahat Foundation and Queerious BITS.

Languages

English, Bengali, Hindi, French (elementary fluency)