

# Abhay Kshirsagar

## Curriculum Vitae

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### Education

2019–Present **Indian Institute of Science Education and Research- Kolkata,**  
*Dept. Biological Sciences, Minor : Computer Science.*  
GPA – 8.74/10

### Interests and Hobbies

Research Int. Computational Biology, Bio-Informatics, Machine Learning  
Hobbies Origami, Competitive Programming

### Projects

- Nov 2021– **Exploring the the Free Energy Landscape of IDR using Deep Learning**, *Prof. Neelanjana Sengupta, IISER Kolkata, India.*  
Ongoing
  - Study the Conformational Landscape of two CoVID proteins using Molecular Dynamics Simulation and Variational Autoencoders.
  - Sample the Intermediate Rare Conformations using the latent space
- Nov 2021 – **Predicting Global Horizontal Irradiance [Code ,Certificate]**, *Hackathon Submission.*  
Dec 2021
  - Implemented Long Short Term Memory Networks on previous GHI and could cover data of a solar farm.
  - Qualified To be Finalist Teams among 30 Teams
- Oct 2020 – **Wind Farm Layout Optimization [Code]**, *Hackathon Submission.*  
Nov 2020
  - Implemented Particle Swarm Optimization Algorithm in Python.
  - The algorithm finds the optimal wind turbine farm layout using PSO and Wind Data of a particular region.
- Jun 2020 – **Summer Project [Report]**, *Prof. Jayasri Das Sarma.*  
Nov 2020
  - Studied the parallels between m-CoV and SARS-CoV-2 and how is can be used as a model organism for studying SARS-CoV-2 in mice.
- Feb 2020 – **Welearn Bot [Code]**, *Team Project.*  
Jun 2020
  - A cli application for interacting with Welearn IISER-Kolkata for downloading files getting assignment deadlines
  - Implemented the cache file system for the downloaded files and calendar event creation
  - Implemented the google calendar integration for adding assignment and examination deadlines as an event on google calendar for those productivity.

### Achievements

- Jun 2020 **KVPY SB Scholar**, *Scholarship.*
  - Qualified for a scholarship program for students interested in pursuing science
  - Ranked 56
- Jun 2019 **INSPIRE Scholar**, *Scholarship.*
  - Qualified for a scholarship program for students interested in pursuing science

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## Skills

Languages Python, C/C++, SQL, MATLAB, R, Dart

Frameworks Keras, PyTorch, Tensorflow

Web Dev HTML/CSS, JavaScript (ES6)

Android Dev Flutter

Communication English, Hindi

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## Relevant Courses

### Online Certifications.

- Machine Learning by Andrew Ng - [Certificate]
- Introduction Neural Networks - [Certificate]
- Convolutional Neural Networks - [Certificate]
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization - [Certificate]

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## Extra Curriculars

Aug 2021 **SlashDot Club**, *Convener*.

- I am the convener of SlashDot Club which is the Coding Club of IISER Kolkata
- During my period I have taken Workshops on Web Development where I taught HTML, CSS and JavaScript.
- I was also an active member of Code Chef College chapter of IISER Kolkata

Jan 2021 **Campus Radio**, *Web Development Team*.

- I headed the Web Development Team at Campus Radio and created website with a database Back-end
- For the Website I used tools like Firebase for storing Images, And personal Data
- I also created an app which connects to the Fire-base with CRUD functions that allows user to Modify the Data seamlessly through the GUI