YASHRAJ UPASE

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EDUCATION

Year	Degree/ Certificate	Institute	Performance in CGPA/%
Oct-2022	M.Sc.	National Institute of Technology, Karnataka	8.92/10
Oct-2020	B.Sc.	Sangmeshwar College, Solapur affiliated to P.A.H. Solapur University	9.98/10
June-2017	HSC(12th)	A.D.Joshi Junior College, Solapur	87%
June-2015	SSC(10th)	Siddheshwar Prashala, Solapur	94%

PROJECTS

Working on solving Navier-Stokes Equation for lid driven cavity problem as a window towards fluid dynamics and climate dynamics Aug. 2021 - July. 2022
M.Sc Project as a part of curriculum *Guide: Dr. Ajith K. M.*

- Modeled lid driven cavity problem in Python using finite difference and finite volume method and understood the limitations of the approach
- Worked on oscillatory lid and now trying to reproduce the problem with obstacle in the cavity as self study project.

Band Structure and Density of State Simulations of GaN Using Quantum-Espresso July 2021 - Dec. 2021
M.Sc. Minor Project *Guide: Dr. Kartick Tarafdar.*

- Performed the band structure calculation and density of state calculations using first principles.
- Found the Fermi energy and band gap for the GaN structure.

Electrodeposition of Cu on Stainless Steel Substrate Jan. 2016 - April 2016
B.Sc. Major Project *Guide: Dr. M.S. Kavale*

- Copper was deposited on stainless steel and optimum voltage, current values were found out.
- Analysed the XRD plots, peak detection, lattice parameter, and d-spacing were calculated and verified with JCPDS data.

SEMINARS

Virtual Conference on Global Warming and Climate Emergency-visions and missions 11-12th Mar.2022
Organised by :SASTRA University and Shastri Indo-Canadian Institute
Stood 3rd in a Quiz Competition organized as part of the Conference

International Webinar on Recent Development in Materials, Devices and Applications 4th Jan.2019
Resource-Person : Prof. Marc Cahay(University of Cincinnati)

National Seminar on Recent Trends in Chemical and Physical Sciences 31th Jan.2019
Resource Person: Dr. Satishchandra Ogale (Emeritus Professor, IISER Pune)

INTERNSHIP AND WORKSHOP

Internship 2nd Oct 2022 - Ongoing
Climate Informatics *Guide: Dr.Joy Monteiro*

Institute: Indian Institutes of Science Education and Research, Pune, India.
1. We are aiming to identify extreme heat events and perform network analysis and machine learning techniques in search topological connections of such events.

MOOC on Machine Learning in Weather & Climate 9th Jan 2023 - 30th Apr 2023

Institute: ECMWF and International Foundation Big Data and Artificial Intelligence for Human Development
1. This includes an introduction to the writing of ML scripts for numerical weather prediction.

Workshop on AI/ML applications of Radiomics in Healthcare 09-29th Apr.2022

Institute: NITK and Baylor College of Medicine
1. During this workshop we studied how different ML models can be used in medicine
2. Problems addressed were prediction of long-term outcomes in subarachnoid hemorrhage(used LR), Brain Tumour Segmentation (using UNET), Classification of Diabetic Retinopathy(using VGG16)

Workshop on AI/ML techniques for the Weather and Climate applications 12-14th Mar.2022

Institute: IIT Kanpur, IITM Pune
Conducted by experts from IIT Kanpur, IISc Bangalore, DIAT Pune, IITM Pune, IMD Pune, IISER Pune, NVIDIA, and Intel
1. During this workshop we studied the application of AI/ML to Atmospheric Science problems
2. Problems discussed were downscaling(using SRCNN), rainfall forecasting(ConvLSTM), lightening and forest fire forecasting

Summer Internship Program-2021 at PRL 27th May 2021 - 31st July 2021
Tropospheric Ozone and CO Variation over Hyderabad Region *Guide: Dr.Lokesh Kumar Sahu*

Institute: Atmospheric Science Division, Physical Research Laboratory (PRL), India.
1. During this 2-month-long internship columnar variations of CO and O_3 were plotted for the Hyderabad region
2. Data was taken from CAMS reanalysis and TROPOMI mission respectively for CO and O_3

Deep Learning Internship January 2021
Building MLP and CNN module for image data acquired using web scrapper

Institute: GlobalCert Pte. Ltd, incubated by National University of Singapore.

SKILLS AND INTERESTS

Subject Interests :	Atmospheric Sciences, Climate change
Programming Language :	**Python**, **MATLAB**(novice)
Tools Equipped :	LaTeX , MS-OFFICE, ORIGIN, LT-SPICE, **netCDF4 data handling** **Numpy, PyTorch, Keras, regionmask, Xarray, NetworkX**
Courses taken :	Classical Physics, Electrodynamics, DFT, Condensed Matter Physics Electronics, General Relativity, Computational Physics, **Computational Fluid Dynamics** (as Extra-Credit course)
MOOC courses:	Python (Coursera), Deep Learning Specialization (Coursera), Climate Modelling using Python(ongoing)

ACHIEVEMENTS

- Awarded **INSPIRE fellowship** (accepted for level-II scrutiny) given by Department of Science and Technology, Government of India. -since 2023
- Recipient of **INSPIRE scholarship** given by Department of Science and Technology, Government of India. - 2017-2022
- Secured **2nd rank** in B.Sc. in Solapur University.

EXTRA-CURRICULAR

- Won 2nd prize at university level quiz competition in Youth Festival (2018)
- Play badminton as a hobby
- Stood 4^{th} in district level best performing student competition (2017)
- Languages: English, Marathi, Hindi, German(Basic)