

Pratik Bhushan Barve

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SUMMARY

Data Science graduate student at South East Technological University, Carlow, looking for an entry level Data Analyst / Data engineer / Software Engineering positions where I can apply my data visualisation and Data analysis skills to better understand the problems and seek solutions. Technology and science enthusiast, always willing to learn, explore and understand things in depth.

EDUCATION

2022 - 2023 **Master of Science - Data Science**

(Ongoing) ***South East Technological University, Ireland***

→ Courses : Python, R, SQL, Statistics, Visualisation in R and Pandas, Data Analytics and Algorithms, Infrastructure for Big data

→ Extra Curricular : Class rep for 2022-2023 Data Science batch.

Clubs/Societies - Table Tennis, Everything Space

2017 - 2019 **Master of Science - Physics**

University of Mumbai, K. J. Somaiya College

Courses : Mechanics, Mathematical Methods - Linear algebra, advance calculus, Differential equations, Electronics, Quantum Mechanics, Statistical Mechanics, Electrodynamics

2014 - 2017 **Bachelor of Science - Physics**

University of Mumbai, Wilson College

Courses : Mechanics, Electrodynamics, Quantum Mechanics, Solid State Physics, Mathematical methods, Experimental physics, 8085 Microprocessor

SKILLS

Programming Python (NumPy, Matplotlib, Pandas, Scikit-learn, Keras, Plotly, Streamlit, Flask, Anvil)
R, SQL, Git, Github

Softwares L^AT_EX, Microsoft Office Suite, Google Suite, Adobe Photoshop & Lightroom

PROJECTS

Maglimit

[Maglimit Github Repo](#)

Published a Python package on pypi as a part of [CodeAstro](#) Workshop conducted by Caltech in 2022. It is a package to determine observability of an astronomical object using its magnitude and telescope's limiting magnitude.

PhysicStuff

[PhysicStuff Github Repo](#)

Owner and author of PhysicStuff.com, an informative Physics website. I have also curated a Github repo with interesting Physics and Math visualisations created in Python.

WORK EXPERIENCE

Python Tutor

Dec 2021 - Feb 2022

Prepared and delivered an Introductory Python course for high school students at *Goldcrest International School, Vashi India*.

Python Tutor

May 2021

Python tutor for Computational Physics Summer school, organised by the *Indian Association of Physics Teachers* for under graduate physics students. Prepared tutorials and assignments for active learning and covered important packages like NumPy, Matplotlib, Pandas, SciPy and SymPy.

RESEARCH EXPERIENCE

Jan 2021 - Sep 2022

Optimising Radio Telescope Beam Pattern To Detect nearby Fast Radio Bursts

Guide: Dr. Shriharsh Tendulkar (Dept. of Astronomy and Astrophysics, TIFR)

Description: Using the Luminosity function, we estimate the event detection rate of a radio telescope beam pattern. Comparing event rates we determine the optimal beam pattern.

Jan 2019 - May 2019

Masters Thesis: Fabrication and Characterisation of Resistive plate chambers (RPCs) for Cosmic Muon Tracker (CMT)

Guide: Dr. Satyanarayana Bheesette (Dept. of High Energy Physics, TIFR Mumbai)

Description: Constructed and characterised a portable, fully functional cosmic muon tracker by stacking 8 RPC detector layers.

May 2016

Determination of Muon Lifetime using Plastic Scintillator Detector

Guide: Dr. Satyanarayana Bheesette (Dept. of High Energy Physics, TIFR Mumbai)

Description: Determined lifetime of a stopped cosmic muon in a plastic scintillator detector using a simple setup of scintillator and photo multiplier tube.

COURSES / WORKSHOPS

- Selected for [Code/Astro Workshop](#) organized by Caltech. A week long astronomy software development workshop held in 3rd week of June 2022. Published my own Python package Maglimit using knowledge gained in workshop.
- Attended 2 consecutive [ZTF Summer School 2021 and 2022](#). Gained hands-on experience and training in data processing of ZTF and other transient survey data, using modern data science techniques such as Bayesian inference, time-series analysis, and machine learning.
- Completed an online course - "[Data Driven Astronomy](#)" by The University of Sydney and offered on Coursera. Learned the application of SQL in big data and machine learning in galaxy classification.

INTERESTS / HOBBIES

Astronomy, Astrophotography, Reading, Music, Trained in Indian Classical Percussion - Tabla

References provided on request

Last updated: December 12, 2022