Name : Kaustuv Deolal

Country : India

School and Degree: Shiv Nadar University , BS in Computer Science as Major  with Minor in Mathematics

Graduate Year: 2017

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About me : I am a junior year CS major. My prime interests lies in using programming as a tool in diverse streams, Astronomy being one of them. All my projects till now have been from different engineering and science streams. Few of them being :

1. Braille printer using arduino and Python (description in my Github)
2. File Upload and Data Analysis using **Flask** (description in my Github)
3. Android Apps on Play Store, one being utilized heavily in Energy Modelling of Buildings
4. Breast Cancer Tumor **classification** applying Machine Learning Algorithms
5. Research Work in **Number Theory** (precisely in the field of Number Theoretic Functions)
6. Research Work in Data Mining (developing a novel **FP mining algorithm** using Closed Frequent Itemsets)
7. Research Work in **Graph Theory** (in field of sparse matrices and their exponent)
8. Facial Recognition using Signal Processing and Matlab
9. Various projects on Web Scraping , Twitter API, Telegram APIs (description in my Github)
10. Assisted my College **Hyperloop** team , for **SpaceX competition** in pod design and simulations.
11. Open Source contributions in Pandas and Sympy. With one API change integrated in latest version of Pandas (v18.0)  [Issue: 11833](https://github.com/pydata/pandas/issues/11833)

Courses and Skills : Numerical Analysis, Abstract Algebra, Algorithms, Number Theory ,Linear Algebra, Calculus,Classical Mechanics, Electromagnetism, Python ,Flask, Rest APIs, Android,Machine Learning, Data Mining,Java,JavaScript,C and Git .

Project Chosen :

Gravitational Waves Pulsars and NANOGrav

Reason for Choosing :

I am a learning enthusiast, Astronomy/Astrophysics being one of my favourite disciples.

I grew up watching Walter Lewin lectures.  They got me  into Physics in general and Astrophysics in particular. Later fields like machine learning and guys like [Jake Vanderplas](http://staff.washington.edu/jakevdp/) motivated me enough to use programming as a tool in astronomy and natural sciences

Since this particular project involves less knowledge of Astronomy , this  makes it  more interesting. The learning curve is steep and the scope of learning  about celestial objects like Pulsars  makes it very captivating. Modern technologies like NANOGrav are involved in this project which are used to understand still mysterious gravitational waves . Thus the prospect of making a scientific discovery takes motivation to an altogether different dimension

I hope to gain decent astronomy/astrophysics knowledge while working on this project. Some knowledge  of web-data visualization for astronomical data would also be imbibed. I plan to gain overall research experience while spending my summers in McGill Space Institute

The reason for choosing McGill Space Institute over others is that it is a **Research** Observatory working in astronomy/astrophysics. The work  would not be confined to mere coding and testing. It is the research and the personal mentorship that excites me.

I would be very glad to come over to Montreal for the summers. The idea of having fun summers in a different nation definitely adds to my reasons for choosing McGill Space Institute

The link for the exercise :

[dropbox link](https://www.dropbox.com/s/aprnbeosk4ov2mf/plot.html?dl=0)

You have to download the html file and open it in your local browser.