

Vijay Chawan



📍 Wilson College | India

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THE PURPOSE SHOULD BE TO DO QUALITY RESEARCH

Education

2017 - 2020 **BACHELOR OF SCIENCE; MAJOR IN PHYSICS** - Wilson College

2015-2017 **CLASS 11 AND 12** - Viva College
PERCENTAGE - 81.77

2013-2015 **SECONDARY HIGH SCHOOL** - Babuji Babaji Jadhav English School, Virar
PERCENTAGE - 76.20

Internships

March 2020 **SUMMER INTERNSHIP** - [Earth Samvarta Foundation\(NGO\)](#)
GUIDE - [CEO Chandraprabha Sharma](#) and [COO Vaishali Singh](#)
POSITION - Executive Management Intern
TITLE - Earth Samvarta Foundation's campaign to help India fight against Corona virus.

I am a part of an active team which feeds hundreds of stray animals on the streets of Ayodhya(UP); including Cows, Monkeys and Dogs. I am assigned to make daily reports of our this campaign. I also recently contributed to our new campaign in which aim to make a record of migrants which are coming back to Ayodhya. This will help us to track the flow of migrants and will help us to provide them their suitable jobs etc.

May-July 2019 **SUMMER RESEARCH INTERNSHIP** - Indian Institute of Technology, Madras
GUIDE -[Dr. Chandra Kant Mishra](#)
POSITION - Indian Academy of Sciences summer research fellow
TITLE - Elements of Gravitational Wave Modelling

In the first few weeks of the internship, I followed "Gravitational Radiation(2000)" by Bernard F. Schutz and "Astrophysics and Cosmology with Gravitational Waves(2009)" by Schutz-and-Satyaprakash, to learn different astrophysical sources of gravitational waves, different types of detectors, and different types of noises that can interfere with the signal. As an exercise, I calculated the strain produced by the man-made source, asymmetric supernova, fast-spinning neutron star, and circular compact binary system, by following the discussion in the above-mentioned papers. I also showed that the gravitational wave detectors are omnidirectional apart from a few directions in the detector plane.

In the next phase of my work, I learned about the waveform of gravitational waves in the time domain for a short interval signal from an inspiral compact circular nonspinning binary system, followed by this I learned about the frequency- domain waveform under the stationary phase approximation. In the last part of my internship, I used the Energy and Energy-flux equations, which comes from post- Newtonian expansion and reproduced the effective phase assuming the leading order term and then in 3.5PN, and plotted it in the frequency range 10 to 10,000 Hz - by following Tagoshi notes on the inspiral waveform. [Report](#)

Relevant Course Work

Physics Courses

Courses

Classical Mechanics, Nuclear Physics, Solid State Physics, Electronics, Special Theory of Relativity.

Math Courses

