# Siddharth Vadnerkar

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## EDUCATION

current:

**IIT DELHI**

BTech in Engineering Physics
Expected May 2017 | Delhi, India
Cumulative GPA[5 semesters]: 8.259
5th semester GPA(current): 9.053

## LINKS

LinkedIn:// Siddharth

## COURSEWORK

**UNDERGRADUATE**

PHYSICS:
Classical Mechanics
Special theory of Relativity
Mathematical Physics
Quantum Mechanics
Statistical Physics
Field Theory(MSc level)
General Theory of Relativity and Cosmology (MSc level)

COMPUTERS:
Introduction to CS
Data Structures and Algorithms
Computational Physics

## SKILLS

**PROGRAMMING**

pure:
C++ • Java • Python LaTeX
physics related:
Root |Matlab |Mathematica |Labview

## EXTRACURRICULARS

**DEBATE**

Represented college in:
PEC debate 2014/2015
BITS QED 2013
LSRPD 2015
participated in INDC 2014 as a panelist adjudicator

**MUSIC**

Podium finish in many college level tournaments as the drummer of the institute band

## RESEARCH AND PROJECTS

**SUMMER INTERNSHIP, 2015** | Measurement of lepton efficiencies using Z resonance
May 2015 – July 2015 | IISER Pune, India
Worked under the guidance of **Prof. Sourabh Dube** (IISER, Pune) to measure the lepton identification efficiencies at the CMS experiment using the Z resonance (plus a few side projects). Presentation made, project completed. Gained valuable working knowledge of professional grade softwares that CERN uses for research, like Root, as well as familiarization with some of the ongoing research in particle physics.

**SEMESTER READING PROJECT, 2015** |path integrals
Aug 2015 – Nov 2015 | IIT Delhi, India
Worked under Prof. V. Ravishankar(IIT Delhi), to understand the nuances of the path integral technique and solving a few elementary problems using the technique.
Solved the path integral equation for 2 dimensional Young's double slit experiment to obtain the theoretical equation for the same[theoretically unintegrable]. Determined which approximations lead to the accepted patterns on the quantum s
Concepts learned include: the basic formulation and mathematical techniques used to solve path integrals for multiple dimensions, the inherent connection between the schrodinger description and the path integrals, harmonic oscillators, and solved the Young's double slit experiment using path integrals.

**SUMMER READING PROJECT, 2014** |classical mechanics and special relativity
May 2014 – May 2014 | IISER Pune, India
Worked under **Prof. Sudarshan Ananth** (IISER, Pune) to understand the concept of Lagrangian in classical mechanics; the special theory of relativity, in which I learnt about Lorrentz transforms and basic postulates of the theory. Besides, learnt a few basics of pre-requisites required for theoretical physics like Tensors.

## ACHIEVEMENTS AND SCHOLARSHIPS

| | |
|---|---|
| 2015 | Scored 335/340 in revised GRE |
| | 170 in Quantitative (98 %ile) 165 in Verbal (95 %ile) |
| 2015 | top 7 %ile of the institute, SGPA 9.1 |
| 2013 - present | All math or theoretical physics courses, Grade >= 9 |
| 2013 | 12th standard exams, 86%: |
| | Qualified for INSPIRE scholarship by the Govt. of India (2%ile) |
| | Received Pune Municipal scholarship (passed w/ distinction) |