# Pratyush Das

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- *GitHub*    https://github.com/reikdas

## Education

**Institute of Engineering & Management, Kolkata**    2017-2021(Expected)
*Bachelor of Technology in Computer Science and Engineering. CGPA: 8.00/10*

**Don Bosco School, Park Circus**    2016
*High School*

## Experience

**IRIS-HEP - Fellow**    June, 2019 - September, 2019

Fermi National Accelerator Laboratory, USA - LHC Physics Centre

Supervisor - Dr. Jim Pivarski(Princeton University)

- uproot: Python implementation of ROOT, the open source file format storing the largest quantity of data in the world
    - Added functionality to write ROOT files with TTrees.
    - Played a major role in making uproot one of the most widely used High Energy Physics libraries.

**DIANA-HEP - Fellow**    June, 2018 - September, 2018

Fermi National Accelerator Laboratory, USA - LHC Physics Centre

Supervisor - Dr. Jim Pivarski(Princeton University)

- uproot
    - Examined ROOT serialization of objects.
    - Added functionality to write ROOT files with strings and histograms.

**DIANA-HEP - Summer Student**    June, 2017 - August, 2017

Supervisors - Dr. Jim Pivarski(Princeton University), Dr. Viktor Khristenko(CERN)

- spark-root - Apache Spark datasource for ROOT
    - Separated spark bindings from TTree reading code.
- root4j - Java implementation of ROOT file reader
    - Optimized codebase to facilitate interoperability

## Summer Schools

**Computational and Data Science for High Energy Physics**    2019
*Princeton University*

## Programming Skills

**Languages:** Python, Java, C, C++
**Libraries/Frameworks:** numpy, ROOT, git, CUDA, *nix

## Publications

- N.Saha, **P.Das**, H.N.Saha, "Authorship Attribution of Short Texts using a Multi Layer Perceptron", International Journal of Applied Pattern Recognition, 2018 Vol. 5 No. 3, Pages 251-259, DOI: 10.1504/IJAPR.2018.10016100.    2018

## Conference Talks

- Python in High Energy Physics.
  *-PyCon USA (Remote)*    2020
- Python in High Energy Physics
  *-Scipy India (Indian Institute of Technology, Bombay)*    2019
- The Scikit-HEP Project: Overview and Prospects - Eduardo Rodrigues et al.
  *-24th International Conference on Computing in High Energy and Nuclear Physics (University of Adelaide)*    2019
- Writing files with uproot
  *-PyHEP (Abington, UK)*    2019
- Writing files with uproot
  *-ROOT Users' Workshop (Academy of Sciences and Arts of Bosnia and Herzegovina)*    2018

## Talks at Meetings

- PR 5297: Testing Facilities - Vassil Vassilev, Pratyush Das
  *-ROOT Team Meeting(Vidyo)*    2020
- Writing TTrees with uproot
  *-IRIS-HEP Topical Meeting: Summer student project presentations(Vidyo)*    2019
- Writing files with uproot
  *-DIANA Meeting: Updates on ROOT I/O(Vidyo)*    2018
- Separation of Concerns - Refactoring code between ROOT4J and Spark-Root
  *-DIANA Meeting: Student Projects(Vidyo); CMS Big Data Science Projects(Vidyo)*    2017

## Academic Achievements

- Awarded travel grant to speak at PyCon USA 2020 in Pittsburgh, USA[1].                                      2020
- Awarded travel grant to attend PLMW and POPL 2020 in New Orleans, USA.                                      2019
- Awarded travel grant to attend CoDaS-HEP summer school at Princeton University.                             2019
- Awarded the IRIS-HEP undergraduate fellowship.                                                              2019
- Awarded travel grant to speak at ROOT Users' Workshop 2018 in Sarajevo, Bosnia and Herzegovina.            2018
- Awarded the DIANA-HEP undergaduate felowship.                                                               2018

## Extracurricular Achievements

- International Rated Chess Player (Federation Internationale des Echecs)                                      2016
- Adhyayan National Student Leadership Contest (Adhyayan India) - Third                                       2015
- IT Quiz (Computer Society of India) - Second                                                                2014

## Open Source Projects

- uproot (Core developer) - Designed ROOT file writing interface.
- uproot-methods - Enabled support to recognize hook for multidimensional uproot histograms.
- root4j - Optimized interface for interoperability.
- spark-root - Separated spark bindings from TTree reading code.
- cling - Configured installer to build using LLVM binary.
- ROOT - Provided fixes to rootcling bugs.

## Featured in Media

- *Princeton leads efforts to develop national data training framework for high energy physics* - Princeton University News      2019

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[1]Unable to travel due to covid19