

Pratyush Das

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Education

Institute of Engineering & Management, Kolkata <i>Bachelor of Technology in Computer Science and Engineering. CGPA: 8.00/10</i>	2017-2021(Expected)
Don Bosco School, Park Circus <i>High School</i>	2016

Experience

IRIS-HEP - Fellow Fermi National Accelerator Laboratory, USA - LHC Physics Centre Supervisor - Dr. Jim Pivarski(Princeton University) <ul style="list-style-type: none">• uproot: Python implementation of ROOT, the open source file format storing the largest quantity of data in the world<ul style="list-style-type: none">- 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.	June, 2019 - September, 2019
DIANA-HEP - Fellow Fermi National Accelerator Laboratory, USA - LHC Physics Centre Supervisor - Dr. Jim Pivarski(Princeton University) <ul style="list-style-type: none">• uproot<ul style="list-style-type: none">- Examined ROOT serialization of objects.- Added functionality to write ROOT files with strings and histograms.	June, 2018 - September, 2018
DIANA-HEP - Summer Student Supervisors - Dr. Jim Pivarski(Princeton University), Dr. Viktor Khristenko(CERN) <ul style="list-style-type: none">• spark-root - Apache Spark datasource for ROOT<ul style="list-style-type: none">- Separated spark bindings from TTree reading code.• root4j - Java implementation of ROOT file reader<ul style="list-style-type: none">- Optimized codebase to facilitate interoperability	June, 2017 - August, 2017

Summer Schools

Computational and Data Science for High Energy Physics <i>Princeton University</i>	2019
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Programming Skills

Languages: Python, Java, C, C++

Libraries/Frameworks: numpy, ROOT, git, CUDA, *nix, L^AT_EX

Publications

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| • 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 |
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Conference Talks

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

Talks at Meetings

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

Academic Achievements

- Awarded travel grant to speak at PyCon USA 2020 in Pittsburgh, USA. 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 undergraduate fellowship. 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
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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 - Refactored rootcling options.
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Featured in Media

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