

# Pratyush Das

- *Phone* (+91) 9051603323
- *Email* reikdas@gmail.com
- *GitHub* <https://github.com/reikdas>

## Education

<b>Institute of Engineering &amp; Management, Kolkata</b> <i>Bachelor of Technology in Computer Science and Engineering</i> SGPA: 8.62/10	2017-2021(Expected)
<b>Don Bosco School, Park Circus</b> <i>Council for the Indian School Certificate Examinations</i>	2002-2016

## Experience

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

## Summer Schools

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

<b>Experienced</b> <ul style="list-style-type: none"><li>• <i>Python</i></li></ul> <b>Familiar</b> <ul style="list-style-type: none"><li>• <i>Java • C • Go • C++ • SML</i></li></ul>	<b>Libraries/Frameworks</b> <ul style="list-style-type: none"><li>• <i>numpy • ROOT • git • CUDA • *nix • L<sup>A</sup>T<sub>E</sub>X</i></li></ul>
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## Publications

• N.Saha, <b>P.Das</b> , 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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## Presentations

• 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 TTrees with uproot <i>-IRIS-HEP Topical Meeting: Summer student project presentations(Vidyo)</i>	2019
• Writing files with uproot <i>-ROOT Users' Workshop (Academy of Sciences and Arts of Bosnia and Herzegovina)</i>	2018
<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.	2020
• Awarded travel grant to attend PLMW and POPL 2020.	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. 2018
- Awarded the DIANA-HEP undergraduate fellowship. 2018

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## Extracurricular Achievements

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

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## Open Source Projects

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- 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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## In Media

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