Sichen Li

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SUMMARY: Data Scientist living in Netherlands with 5 years data research experience in using machine learning and statistical models to deliver insights and solutions.

SKILLS

Python, Machine Learning, Scikit-Learn, Numpy, Pandas, Matplotlib, Tensorflow, SQL, C++, Git, Linux, Cluster, Statistics Modeling, CMake, Bash Shell, LaTex

EDUCATION

2017.11–2023.07
- **PhD in Astroparticle Physics**

RWTH Aachen University, Aachen, Germany / European Organization for Nuclear Research, Geneva, Switzerland

09/2015-07/2017
- **Master of Science in Physics**

Harbin Institute of Technology, Harbin, China

09/2011-07/2015
- **Bachelor of Science in Physics**

Harbin Institute of Technology, Harbin, China

WORK EXPERIENCE

11/2017-07/2023 **Data Scientist, RWTH Aachen University, Aachen, Germany**

- **Cosmic Ray identification with Machine Learning**
  To identify rare component of antiprotons in cosmic ray, train classifier to separate antiproton and contamination backgrounds with machine learning methods like Neural Networks or Boost Decision Trees on the Monte Carlo simulation data, then applied on the collected data from International Space Station. Compared with previous classifiers, the separation power improve by **20%**.
- **Analysis of Solar Wind impact on Cosmic Rays**
  To study the impact of solar activity on cosmic rays, perform statistical models like template fit to extract antiprotons from collected data from International Space Station (dataset of more than **200 billion** events), obtain the time dependence of cosmic antiprotons and reveal the different patterns during propagation in the solar system.

11/2017-10/2022 **Scientific Researcher, European Organization for Nuclear Research, Geneva, Switzerland**

- **Raw Cosmic Ray data calibration**
  In order to have precise measurement for cosmic rays, calibrate the raw cosmic ray data and resolve issues like aging of detectors or power cut in the International Space Station. The measurement uncertainty of physics response reaches within **5%**.
- **Detector in Space Monitoring**
  AMS-02 is a cosmic ray detector installed on the International Space Station, which is collecting cosmic ray data in 24/7 operation. My task is to monitor sub-detectors running in space, and perform daily high voltage adjustment to optimize detector performance.

09/2015-07/2017 **Research Assistant, Harbin Institute of Technology, Harbin, China**

- **Meson particle decay calculation**
  Using quantum filed theory model (BS equation) to numerically solve wave function of mesons, calculate particle decay widths to identify higher excited states of particle.

LANGUAGE

English(Professional Proficiency); Chinese(Native Speaker); German(Beginner)