



# Sichen Li

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More Info on Personal website: <https://season0112.github.io/>

**SUMMARY:** Data Scientist residing in the Netherlands with five years data research experience in performing machine and statistical models to extract actionable insights and provide solutions. Available ASAP.

## SKILLS

**Python, Git, Linux, C++, Bash Shell, MySQL, Data visualization** (Matplotlib, Seaborn), **Cluster Server, Machine Learning** (Scipy, Scikitlearn, Tensorflow), **Statistical Modeling** (Probability Theory, Hypothesis Testing and Confidence Intervals, Analysis of Variance, Time Series Analysis, Likelihood Estimation), **Data Cleaning and Processing**

## EDUCATION

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|-----------------|---|
| 2017.11–2023.07 | <ul style="list-style-type: none"><li>• <b>PhD in Astroparticle Physics</b><br/>RWTH Aachen University, Aachen, Germany / European Organization for Nuclear Research, Geneva, Switzerland</li></ul> |
| 09/2015-07/2017 | <ul style="list-style-type: none"><li>• <b>Master of Science in Physics</b><br/>Harbin Institute of Technology, Harbin, China</li></ul>   |
| 09/2011-07/2015 | <ul style="list-style-type: none"><li>• <b>Bachelor of Science in Physics</b><br/>Harbin Institute of Technology, Harbin, China</li></ul>   |

## WORK EXPERIENCE

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|-----------------|---|
| 11/2017-07/2023 | <p><b>Data Scientist, RWTH Aachen University, Aachen, Germany</b></p> <ul style="list-style-type: none"><li>• <b>Cosmic Ray identification with Machine Learning</b><ul style="list-style-type: none"><li>– Train the classifier with machine learning algorithms (BDTs, Neural Networks, etc) on Comic Monte Carlo simulation data</li><li>– Hyperparameter Optimisation for performance with Grid/Random Search</li><li>– Apply the classifier to real collected data from the International Space Station, showcase a significant <b>20%</b> improvement in performance compared to previous classifiers</li></ul></li><li>• <b>Analysis of Solar Wind impact on Cosmic Rays</b><ul style="list-style-type: none"><li>– Data Cleaning and Reduction for over <b>200 billion</b> cosmic events collected from the International Space Station</li><li>– Apply advanced statistical models, including likelihood template fit techniques to extract antiproton signals from the collected data</li><li>– Parameter estimation and confidence level to constrain Dark Matter models</li><li>– Time series analysis of obtained cosmic antiprotons, identify distinct patterns in the propagation of cosmic antiprotons within the solar system for first time</li></ul></li></ul> |
| 11/2017-10/2022 | <p><b>Scientific Researcher, European Organization for Nuclear Research, Geneva, Switzerland</b></p> <ul style="list-style-type: none"><li>• <b>Raw Cosmic Ray data calibration</b><ul style="list-style-type: none"><li>– Investigate space operation during data taking to understanding Raw Data Quality</li><li>– Execute precise calibration procedures on raw cosmic ray data to ensure accurate measurements</li><li>– Achieve a remarkable reduction in measurement uncertainty of the physics response, reaching within <b>5%</b></li></ul></li><li>• <b>Detector in Space Monitoring</b><ul style="list-style-type: none"><li>– AMS-02 is a cosmic ray detector installed on the International Space Station, which is collecting cosmic ray data in <b>24/7</b> operation. My task is to monitor sub-detectors running in space, and perform daily high voltage adjustment to optimize detector performance</li></ul></li></ul>  |
| 09/2015-07/2017 | <p><b>Research Assistant, Harbin Institute of Technology, Harbin, China</b></p> <ul style="list-style-type: none"><li>• <b>Meson particle decay calculation</b><ul style="list-style-type: none"><li>– Using <b>quantum field theory</b> model (BS equation) to numerically solve wave function of mesons, calculate particle decay widths to identify higher excited states of particle</li></ul></li></ul>  |

## LANGUAGE

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