
Janmajay Kumar

MASTER OF SCIENCE IN ASTRO AND PARTICLE PHYSICS
MASTER OF SCIENCE IN PHYSICS



- **Executive Summary**

Physicist with a Master's in Astrophysics and Particle Physics. Skilled in data analysis, machine learning, and monte carlo simulation. Passionate about applying data-driven solutions to real-world problems. Strong team player with excellent English communication skills.

Mühlstraße 20 • 72074 Tübingen, Germany
janmajay@iitdalumni.com • +49 (0) 176 77680078

Appendix – Curriculum Vitae, Credentials.

Curriculum Vitae

Personal Information

[LinkedIn](#) <https://www.linkedin.com/in/janmajay-kumar-82b37121/>
[GitHub](#) <https://github.com/QED137?tab=repositories>

Areas of Expertise

Statistical Analysis, Machine Learning Methods, Computational Physics, Applied Mathematics, Problem-solving, Monte Carlo Simulation.

Professional Experience

- | | |
|-------------------|--|
| 07/2023 – ongoing | Freelancig and Data scientist training |
| 02/2022 – 06/2023 | Research Assistant LEGEND100 Experiment (<i>part of an international collaboration in particle physics</i>)
Eberhard Karls University Tübingen, Tübingen <ul style="list-style-type: none">Performed Monte Carlo Simulations using C++-based GEANT4 framework, simulated gamma interactionsDeveloped and refined neutron tagging programPerformed data analysis with C++-based ROOT framework and Python |
| 08/2022 – 06/2023 | Lab Supervisor Neutron Activation Experiment
Eberhard Karls University Tübingen, Tübingen <ul style="list-style-type: none">Supervised a laboratory course for Bachelor of Physics students |
| 12/2017 – 07/2018 | Research Assistant
Indian Institute of Technology, Delhi in India <ul style="list-style-type: none">Focus area: Computational simulated the Schwinger Effect using Python |
| 07/2014 – 05/2017 | Teaching Professional
Bhabha Institute of Technology, Kanpur in India <ul style="list-style-type: none">Taught Statistics with Python and Lab courses on Radiation Physics |

Projects

- | | |
|-------------------|---|
| 12/2023 – 12/2023 | Out of Distribution Computer Vision Challenge |
| 10/2023 – 10/2023 | Machine Learning Project: Higgs Boson Challenge on Kaggle |
| 12/2017 – 07/2018 | Project on Non-perturbative Field Theory at Indian Institute of Technology in Delhi (India) |
| 01/2012 – 05/2013 | Monte Carlo Simulation of Mass Transport Model and Applications in Python |

Education

- | | |
|-------------------|--|
| 10/2018 – 10/2021 | Master of Science in Astro and Particle Physics (M.Sc.)
Eberhard Karls University Tübingen, Tübingen |
| 07/2011 – 05/2013 | Master of Science in Physics (M.Sc.) |

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Indian Institute of Technology, Delhi in India

03/2004 – 05/2007

Bachelor of Science in Physics (B.Sc.)

Tilkamanjhi Bhagalpur University, Bhagalpur in India

Continuing Training

4/2024 - (10/2024)

Probabilistic Machine Learning | Machine Learning Tübingen AI Center

Developed proficiency in Bayesian inference, probabilistic graphical models, and Monte Carlo methods.

10/2023 – (Ongoing)

Deutsch Kurse | A2/B1

08/2023 – 10/2023

Deep Learning | DeepLearning.AI ([Click for Certificate](#))

- Convolutional Neural Networks
- Sequence Models
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
- Neural Networks and Deep Learning
- Structuring Machine Learning Projects

06/2023 – 08/2023

Machine Learning | Stanford University & DeepLearning.AI ([Click for Certificate](#))

- Supervised Machine Learning: Regression and Classification
- Advanced Learning Algorithms
- Unsupervised Learning, Recommenders, Reinforcement Learning

Additional Skills and Qualifications

Languages

English, business fluent

German, basic knowledge written and spoken (A2)

Computer skills

c++, Python, Flask, TensorFlow, PyTorch, Linux, GEANT4, Git/GitHub

References

Prof. Dr. Josef Jochum | Eberhard Karls University Tübingen

josef.jochum@uni-tuebingen.de

Dr. Shahid Khan | CERN

shahid.khan@cern.ch

Tübingen, August 11, 2024

Janmajay Kumar