



# Aryan Roy

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## EDUCATION

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### Manipal Institute of Technology

Computer and Communication Engineering, GPA: 8.29

Manipal, Karnataka

Expected Graduation: July 2023

## EXPERIENCE

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### IRIS-HEP Institute

IRIS-HEP Fellow

Remote

Apr. 2021 – Aug. 2021

- Worked on the build and distribution system for an open-source scientific-computation library.
- Developed a high-energy physics clustering Python library for multi-event vectorised Jet Finding.
- The adoption of the said library in one case led to a 20x wall time decrease and 25x throughput increase as compared to other alternatives.

### Project MANAS

AI Perception Head

Manipal, Karnataka

Feb. 2020 – Present

- Developed modules for Geo-Tagging and Path-Length estimation for and under-development autonomous drone.
- Worked extensively on the coverage planner to completely cover a pre-defined area while avoiding obstacles.

### TechQuila

Author

Manipal, Karnataka

Oct. 2019 – Apr. 2021

- Gathered information on the latest developments in the fields of Science and Technology.
- Wrote comprehensive articles covering any given topic in the sub-domain, while adhering to strict SEO optimization constraints.

## PROJECTS

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### Pathfinders

December 2020

- Built a Python library for pathfinding with binded C++ implementations and a vectorized interface.

### Neural Style Transfer

September 2020

- A Generative Neural Network which extracts content and style from different images to create a composite image using VGG-19.

## Talks & Presentations

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### PyHEP 2021

6 July, 2021

- Gave a talk titled - '**FastJet : Vectorizing Jet Finding**' on the design and development of a new Python library for data analysis in High Energy Physics.

## TECHNICAL SKILLS

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- Languages** : Java, Python, C/C++, MATLAB, JavaScript
- Tools** : Git, Cmake, ROS, GitHub Actions
- Libraries** : TensorFlow, PyTorch, Sci-Kit Learn, pandas, NumPy, Matplotlib, pybind11, Awkward Array

## ACHIEVEMENTS

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- Mahindra Rise Prize** : Part of the only undergraduate team to qualify for the finals.
- Blue Sail Hackathon, 2019** : Runner Up