**Extra-curricular activities, if any**

Writer and Reporter

Writer at "FYI”, university newsletter. Reporter of college annual fest, Aatmatrisha ’22. Have voraciously wrote short stories, articles and reports all through my school and college. Lead writer and maintainer of Research Et Al college club blog.

Quiz member, Quiz Quotient Corps club.

Have participated in various quiz tournaments across campus and other Universities.

Was selected for 24th APRSAF Space Conference, due to my quiz work, which was hosted by ISRO, India and JAXA, Japan which granted me a chance to represent my nation India in front of 13 other Asian pacific nations in the water rocket competition associated with the space conference, while learning the rocket model artwork under ISRO.

Language learning: Domain head member of Linguista, language learning club of the University

Can hold conversation over 6 languages. Currently learning Spanish for past 1.5 year.

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**Training / projects undertaken, if any (give details)**

Few of my projects undertaken recently include:

8 Bit Computer

Implemented 8-bit General Purpose Computer built from scratch on FPGA board having load-store architecture using

Verilog HDL

• Built a memory module and an ALU with CLA adder and Booth

• Implemented Recursive function calls and the General-Purpose Computer could run programs and

display results through LED

• Implemented an Interpreted and Compiler for the programs to be run on this General-Purpose Computer

• Chosen as one of the best projects in the course

Tech Stack used - Verilog, Hardware

Help support website.

Built a free website for the Mumbai based "Hands of Hope” NGO foundation, with features like Chat system, mental health resources and stress tests. This website was selected as one of the top 3 projects in "Haul it away”, an annual hackathon.

Tech Stack used - HTML, CSS, Firebase

Git System.

Built a local git system using python that can do various standard functions like create a repository, commit, and push itself to GitHub.

Tech Stack used - Python

I have various other projects too under my belt constructed for fun learning purpose where I try to build, experiment and learn through the projects to further strengthen my understanding.

I am also a huge of hackathons, of which, I have participated 11 offline and 3 online ones in this year. The conducive work and competitive environment

Documentation and code for each of above and various others can be found in my GitHub profile: <https://github.com/Nandan-N>

I have also undertaken and completed the following certification courses:

• Supervised Machine Learning: Regression and Classification

From Andrew Ng, Coursera

Studied about the classification, regression and gradient descent

• Unsupervised Learning, Recommenders, Reinforcement Learning

From Andrew Ng, Coursera

Studied about the clustering and anomaly detection and built a recommender system

• Advanced Learning Algorithms

From Andrew Ng, Coursera

Studied about the TensorFlow, decision trees and models

• Complete Web Development bootcamp

From Angela Yu, Udemy

Studied MERN, HTML, CSS and various other frameworks

• Digital Marketing

From Google

Studied Search Engine Optimization, advertising and marketing.

• Integrated Robotics and Applied Computer Vision

From PesU IO

Learnt about ROS, Robotics and Computer Vision; Did various projects on turtlesim publisher.

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**A write-up\* (not exceeding 150–250 words) as to the specific area of interest of the applicant and what he/she would like to learn and achieve through this fellowship. It can also include the specific experiment or theory that the applicant wants to work on but NOT a general description of the area. The write-up should not be a copy and paste job from any source.:**

My primary research objective and interest is in the area of Data Analytics and related fields. I am currently studying computer science at Pes University, and I am actively involved in projects and activities.

I am especially interested in data and computer vision to solve real life problems but I am open to trying new ideas as well. Due to all these reasons, this opportunity by IAS is especially attractive to me. I am keen to work on projects like deepfake detection. Deepfakes are faces be swapped with someone else’s using neural networks. These are currently a general public concern, thus it's important to develop methods to detect them. In depth study of deepfake algorithms, forensics and its implementations can help us detect and flag them, while improving on existing detecting models and dealing with their shortcomings. With its real-world application, this study can truly make a difference. I believe the experience gained from my past works like water rocket modelling with ISRO to building vision for sentinel drone will aid me to accomplish this.

I am flexible and willing to work hard, looking to learn and experience the scientific research and work culture which would be a great aid to my dreams of working in Research and development in future.

**A write-up\* (not exceeding 150–250 words) as to the specific area of interest of the applicant and what he/she would like to learn and achieve through this fellowship. It can also include the specific experiment or theory that the applicant wants to work on but NOT a general description of the area. The write-up should not be a copy and paste job from any source.:**

My primary research objective and interest is in the area of Data Analytics and related fields. I am currently studying computer science at Pes University, and I am actively involved in projects and activities. From numerous certification courses to hackathons, I’m trying to trying to broaden my understanding and learning by experimenting. One such project that I am interested in is Fake News detection. I’m interested in working on it large scale under research supervisors.

I am especially interested in problems related to data with applications to real life problems but I am open to trying new ideas as well. Due to all these reasons, this opportunity by IAS is especially attractive to me.

I am flexible and willing to work hard, looking to learn and experience the scientific research and work culture which would be a great aid to my dreams of working in Research and development in future. Through my studies, I expect to become, and will work hard to be, an effective researcher and teacher.