Anant Kumar Telikicherla Kandala

278anant@gmail.com | +91 9711101451 | https://www.linkedin.com/in/anantkandala |

Experience

Indian Space Research Organisation (ISRO) — Bangalore, India
Scientist/Engineer-C, Human Space Flight Center(HSFC) — *December 2020 Onwards*

Nanyang Technological University (NTU) — Singapore
Research Intern, Satellite Research Centre (SaRC) — *Jan. 2020 – May 2020*

Worked on developing a rocket payload for SaRC NTU (to be launched using the PSLV 4th Stage Orbital Platform) for monitoring the Solar Spectral Irradiance from the low earth orbit. I submitted the work as my undergraduate thesis at the Indian Institute of Space Science and Technology.

Laboratory for Atmospheric and Space Physics (LASP) — Boulder, Colorado, USA
Summer Intern — *May 2019 – August 2019*

Worked on subsystem integration and testing for a small satellite mission called INSPIRESat-4, which aims to study the Very Low Orbit Region. I presented my work as a finalist at the 33rd Annual AIAA/USU Small Satellite Conference Frank J. Redd student paper competition in a paper titled "INSPIRESat-4/ARCADE: A VLEO Mission for Atmospheric Temperature Measurements and Ionospheric Plasma Characterization" and won the honorable mention award.

Laboratory for Atmospheric and Space Physics (LASP) — Boulder, Colorado, USA
Summer Intern — *May 2018 – August 2018*

Worked as a part of the flight software and On-Board Computer team of the INSPIRESat-1 international collaborative small satellite mission.

Education

Indian Institute of Space Science and Technology, Trivandrum, India — CGPA 8.29/10
Bachelor of Technology, Electronics and Communication Engineering (Avionics) — *Aug. 2016 – Aug. 2020*

Amity International School, New Delhi, India — 95.4 %
Senior Secondary examination CBSE Board (High School) — *Aug. 2014 – May 2016*

Awards/Scholarships

NTU-India Connect Research Internship Program — Jan. 2020
Sponsored candidate under the School of Electrical & Electronic Engineering at NTU — *Singapore*

Honorable Mention Award — Aug. 2019
Frank J. Redd Student Paper Competition, 33rd Annual AIAA/USU Conference on Small Satellites — *Logan, Utah*

Technical Skills

Embedded Systems: FPGA and SoC design, Programming using Verilog, C and Python, Experience with Xilinx ISE and Libero, Interface Protocols and debugging, Schematic design and PCB layout in KiCad and Altium. **Mission Design:** Orbital Mechanics and Attitude Control Simulation and Analysis using MATLAB, Python and STK. **ML/DL:** Machine Learning and Deep Learning algorithms using TensorFlow and Python

Conference Papers

1. Srivastava Sarthak, *Anant Kumar Telikicherla Kandala*, and Glenn Franco Gacal. Inspiresat-4 / arcade: A vleo mission for atmospheric temperature measurements and ionospheric plasma characterization. In *Proceedings of the 33rd Annual AIAA/USU Small Satellite Conference, Session VIII: Frank J. Reed Student Competition, SSC19-V-06*, Utah, USA, August 2019. https://digitalcommons.usu.edu/smallsat/2019/all2019/140/

2. Spencer Boyajian et al. Inspiresat-1: An ionosphere and solar x-ray observing microsat. In *Proceedings of the 33rd Annual AIAA/USU Small Satellite Conference, Session V: Next on the Pad, SSC19-V-06*, Utah, USA, August 2019. https://digitalcommons.usu.edu/smallsat/2019/all2019/93/

3. Amal Chandran et al. A very low altitude satellite for equatorial ionosphere measurements. In *Proceedings of the 33rd Annual AIAA/USU Small Satellite Conference, Session V: Next on the Pad, SSC19-V-03*, Utah, USA, August 2019. https://digitalcommons.usu.edu/smallsat/2019/all2019/90/

4. *Anant Kumar Telikicherla Kandala* et al. Design and development of a 3u cubesat for in-situ radiation dosimetry. In *Proceedings of the 2nd National Conference on Small Satellite Technology and Applications-2020*, Trivandrum, India, December 2020

5. *Anant Kumar Telikicherla Kandala* et al. Development of a ps4-op payload for technology demonstration of small satellite subsystems. In *Proceedings of the 2nd National Conference on Small Satellite Technology and Applications-2020*, Trivandrum, India, December 2020

Projects

Mission Concept and Analysis for X-Ray Pulsar Navigation Aug. 2020 – Dec 2020

Worked on developing a single parameter (true anomaly) position estimations algorithm using X-Ray Pulsar timing measurements. Created a simulation test-bed using Python and Astropy to estimate satellites position using simulated measurements. Developed a small satellite (6-U) systems design and conducted analysis for this technology demonstration mission

Design, Development and Integration of Rocket Payload Jan 2020 – May 2020

Designed the Launch vehicle interface board using KiCad. Wrote the flight software of the payload using C. Worked on hardware and software long duration testing as well as environmental testing of the payload.

Determinations of Spacecraft Position using Neural Network based imager Sept. 2019 – Dec. 2019

Worked on creating a neural network based earth imager that can predict the satellites position using a series of earth images. Worked on creating a Neural network for the same using Python and TensorFlow. Also worked on dataset generation and augmentation of earth images.

Avionics Systems Engineering for INSPIRESat-4 May 2019 – May 2020

Worked on the development of avionics systems design for the INSPIRESat-4 small satellite. Also developed C and Verilog programs for the integration and testing of different subsystems.

Development of On-Board Computer for INSPIRESat-1 Small Satellite May 2018 – Jan. 2020

Worked on schematic design and PCB layout of the On-Board Computer (OBC). I also worked on developing embedded C programs and interfacing the OBC with different subsystems of the satellite.

Systems Engineering for 3U CubeSat for Radiation Dosimetry May 2018 – May. 2020

Worked on designing a Radiation sensor using a RADFET. Conducted the testing and interfacing of the payload with different subsystems. Also worked on developing a simulation for the passive magnetic attitude control system of the satellite

Development of 360-degree Field of View camera Nov 2017 – Mar. 2018

Worked on the software and hardware design of 360 FoV camera using multiple cameras. Developed and testing a simple stitching algorithm using OpenCV and Python.

Extracurricular Activities

Music: Guitar and Keyboard, Grade 1 Certificate for Guitar from Trinity School of Music, London. **Sports:** Football and Tennis, **Electronics hobbyist:** Projects using Arduino/Raspberry Pi

References

1. **Dr. Amal Chandran** Assistant Professor, Nanyang Technological University, 50 Nanyang Ave, Singapore, Tel: (+65)6790 5629, Email: achandran@ntu.edu.sg

2. **Dr. Priyadarshnam Hari**, Associate Professor, Indian Institute Space Science and Technology, Thiruvananthapuram, India, Tel: 91-471-2568426, Email: priyadarshnam@iist.ac.in