JOJI JOHN VARGHESE

Nationality: Indian

E-mail ID: thejasjoji@gmail.com

Date of Birth: 28/09/1993

Phone Number: 8547274758

Objective

To secure a challenging position where I can effectively contribute and utilize my Engineering Skills for the development of the Organization and the benefit of humanity.

Experience

(1) *SPACE PHYSICS LABORATORY, VSSC-ISRO [June 2016 - December 2017] (1 Year 6 Months)*
   Contract Scientist/Engineer for **FPGA based RADAR Digital Receiver Design**

(2) *INDIAN INSTITUTE OF SPACE SCIENCE & TECHNOLOGY, TVM [December 2017 & Till Date]*
   Junior Project Fellow at **Satellite Lab** for **Nano-Satellite Design & Systems Engineering**

Education

Mar Baselios College of Engineering and Technology, Trivandrum
   BTech Degree in **Electronics and Communication Engineering (CGPA 8.1)** [2012 – 2016]

Vivekananda Higher Secondary School, Kollam
   Higher Secondary Education **(+2-Computer Science/DHSE: 98.25%)** [2010 – 2012]

St. John's Central School, Kollam
   Secondary Education **(CBSE: 9.8 CGPA)** [March 2010]

Training & Industrial Exposure

Bharat Sanchar Nigam Limited, Trivandrum
   BSNL Silver, Gold & Platinum **Certificated Engineer in Tele-Communication Technology**

HLL Life Care Limited, Trivandrum
   Designed & Installed a GSM based Tank level monitor

Technical Skills

- SoC, FPGA & Microcontroller based Mixed Signal System Design, Development & Debugging
- Linux Single Board Computer based Embedded System Design , Development & Testing
- Nano Satellite Sub-systems Design , Development & Testing
- Software Defined Radio based System Design for Satellite Telemetry, Tracking & Commanding
- System Engineering Skills & Fair Understanding for Launch Vehicles & Satellites Systems
- Avionics Integration, Harnessing & Checkout System Design
- RF Systems & Antenna Design , Fabrication & Testing
- Balloon Borne Telemetry System Design , Development & Testing
- AI/Deep-learning Systems based classifier for Image Processing/RF Signal Identification
- Open Source Machine Vision Systems for Robotics & UAV Platforms
- UAV/Mutli-Copter Avionics & Payload Architecture Design , Development & Testing
- Analog Circuit Design, Test & Measurement , CAD based Schematic & PCB Design Expertise
- Hardware/Software/OBC/Actuator In-Loop Testing of Small Satellite & Drone Systems
- SMD Fine Pitch Soldering & System Prototyping & Testing
- Python, MATLAB Based GUI/Interface/Data-Logger Design & Testing
- Avionics Hardware Testing/Qualification (Thermo-Vac, Vibration/Shock & EMI/EMC) Experience

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Academic Achievements/Training

- Attended the Course "Integrated Design of Space Vehicle" at IIST by Dr. B. N. Suresh
- Published **IEEE Paper** UPASANA: Diagnostic Toolkit for ASHA Worker
- _BTech Main Project:_ ADS1298 Based 12 Lead ECG Monitor Design
- _BTech Seminar:_ ADS1298 Based ECG System
- _BTech Mini Project:_ Automatic College Bell
- Class Representative for the year 2014-15
- Received Proficiency Prize for year 2012-13
- School Topper in year 2012

Extra-Curricular Technical Achievements

- Got "People's Choice Award" in NASA Space Apps Challenge 2017 for the project "LEOTIS: Low Earth Orbit Thermal Imaging Satellite ".

- The Project "PEACHSAT- A Cube-sat prototype" Got Second prize in National Level Embedded Design Challenge 2016 organized by RENESAS Electronics, India.

- Selected as Most Skilled Electronics worker from Kerala as part of NYPUNYAM 2016 Skill Fiesta & can represent Kerala in National Skill fest.

- The Project "UPASANA Diagnostic Toolkit for ASHA Workers" Got First prize in National Level Embedded Design Challenge 2015 organized by RENESAS Electronics, India.

- Selected to visit Singapore Science Park and Innovation Centre as winner of Prof. Satish John Memorial Award for Yuva Mastermind 2015, Project Competition.

- Got "People's Choice Award" in NASA Space Apps Challenge 2014 for the project "Rovino: The Autonomous Mars Rover ".

- The project titled "NEOSYNC: -Low cost EEG Development Platform" was selected for Texas Instruments Innovation Challenge India Design Contest 2015.

- IEEE Technical Head for Year 2013-14 in college, part of the organizing committee for QUERENCIA, a technical event by IEEE & CROSSROADS 2015, College Technical fest.

- Winner of Marian Award for Technical Excellence 2015 for the project UPASANA Diagnostic Toolkit, got Third prize in TECHTOP-2015, a National Level Project Contest & IEEE AIHEYUM $500 funding for same project.

- Attended a 3 months" workshop on "Innovation, Fabrication & Entrepreneurship" organized by MIT media Labs.

- Won First prize in Spectrum 2012, a National Level Project Contest for the project "Electrical Safety System".

- Winner of Kerala State Science Fair 2012 & 2011 for the projects "Electrical Safety System" & "Train Security System".

YouTube Link For Projects : _(JOJI JOHN VARGHESE 's Uploads)_
_https://www.youtube.com/channel/UCHiQQBbLFFb88lrFenfL4YQ/videos?view=0&sort=dd&shelf_id=0_

LinkedIn Profile_: https://in.linkedin.com/in/joji-john-varghese-62291883_

भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान

(वि.अ.आयोग अधिनियम 1956 की धारा-3 के अधीन भावी मानित विश्वविद्यालय घोषित)

भारत सरकार, अंतरिक्ष विभाग, वलियमला पोस्ट, तिरुवनंतपुरम 695 547 भारत

Indian Institute of Space Science and Technology

(A Deemed to be University u/s 3 of the UGC Act, 1956)
Government of India, Department of Space
Valiamala P.O., Thiruvananthapuram 695 547 India

www.iist.ac.in

To Whomsoever It May Concern

This is to certify that **Mr. Joji John Varghese** has been working at IIST as Junior Project Fellow on Contract (*Appointment No: IIST/Admn/RMT/7/27/2015 dated 08.12.2017 with consolidated pay of Rs.20000/-*) in the **SSPACE** (**S**mall Spacecraft systems and **PA**yload **CE**ntre) laboratory from **18th December 2017** and **still continuing**, for design and development of Nano Satellites Subsystems and VHF/UHF/S-Band TTC ground Station Facility.

During his tenure at IIST, he has carried out following in-house R&D activities:

1. **Establishing of UHF-VHF TTC Satellite Ground Station**
   I. Design, Realization & Testing of VHF & UHF Crossed Yagi-Uda Antenna
   II. Design & Implementation of SDR Based Telemetry Receiver & Ground Operation Console
   III. Design of TLE based Antenna Auto-tracking system for EL over AZ antenna rotator Controller
   IV. Design of Solid State LDMOS RF Power Amplifier based Tele-Command Transmitter
   V. Design, Realization & Testing of RF Front End (LNA,BPF, TR Switch)
   VI. System Link budget validation through LEO Satellite transponder Uplink/Downlink Test

2. **System Engineering for AAReST – IIST Mirror Satellite (Caltech-JPL,IIST &UoS Collaboration)**
   I. Generation of Satellite Operation Sequence Specification to meet the mission objectives
   II. Design of Mirror Sat Sub-Systems including OBC, EPS & ADCS
   III. Hardware Implementation of ADCS Reaction wheel and Magnetorquer Actuators
   IV. Design of Electrical Interface & Satellite Checkout System

3. **Design of IIST Nano-Satellite Subsystems**
   I. Test Setup for ADCS Hardware In-loop Simulation using Helmholtz Coil
   II. Realization of 1.2kbps AFSK/FM Onboard Telemetry Tele-command VHF/UHF RF Modem
   III. EMC/EMI Testing for satellite onboard communication system

4. **Hardware Implementation & Prototyping Support**
   I. Design of SF2 SoC FPGA, Atmel, PIC and ARM Processor based Embedded systems
   II. PCB Layout, Fine pitch SMD soldering, cable harnessing, Integration and subsystem Testing

5. **Design, Implementation & Validation of Technology Demonstration Projects**
   I. LAN based stand-alone Network Ground Station
   II. 1.2m prime focus dish antenna system with S–band helix feed on EL over AZ mount for Telemetry Downlink & Tele-Command Uplink of LEO/GEO Satellites
   III. Offset Fed Dish with Ku band LNBF for GEO Telemetry/Data Reception
   IV. RS485 & CAN Bus Implementation for Instrumentation Support

6. **SSPACE - LAB layout & Facilities Requirement Design**
   I. Equipment Layout & Floor planning
   II. Inventory Management and Component Purchase

During the period, I found him very hardworking and sincere. I wish him all success in the entire endeavor that he may undertake in the future.

July 18, 2019

Dr. Priyadarshanam

Principal Investigator,
IIST Satellite Projects, SSPACE Lab
डॉ. प्रियदर्शनम् / Dr. Priyadarshnam
सह आचार्य / Associate Professor
एविओनिकी विभाग /Department of Avionics
भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान
Indian Institute of Space Science and Technology
अंतरिक्ष विभाग, भारत सरकार
Dept. of Space, Govt. of India
तिरुवनंतपुरम - Thiruvananthapuram - 695 547

डॉ.मनोज बी. एस./Dr. Manoj B. S.
आचार्य एवं अध्यक्ष/Professor & Head
एविओनिकी विभाग/Department of Avionics
भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान
Indian Institute of Space Science and Technology
अंतरिक्ष विभाग, भारत सरकार
Department of Space, Government of India
तिरुवनंतपुरम/Thiruvananthapuram - 695 547

17/7/2019

SPACE PHYSICS LABORATORY

CERTIFICATE

To Whomsoever It May Concern

This is to certify that **Mr. Joji John Varghese**, Thejas, Alayamon PO, Anchal, Kollam, Kerala, India - 691320 has been working in our organization as Contract Scientist/Engineer during the period from **8th June 2016 and still continuing** for the **Development of Digital Receiver for High Frequency Radar System and SDR based Balloon Borne Radiosonde Receiver**. His activities include designing of VLSI system, implementing the system in Xilinx Virtex-6 FPGA (Avnet ML605 board) using Xilinx ISE tools, microcontroller based system design, developing scripts to communicate, operate and analyze data in MATLAB, GUI in Python (Linux platform). During this period I found him very hardworking and sincere.

I wish him all success in the entire endeavor that he may under take in the future.

March 06, 2017

SHAJAHAN M
वैज्ञानिक/इंजीनियर/Scientist / Engineer
अंतरिक्ष भौतिकी प्रयोगशाला/Space Physics Laboratory
भारत सरकार, अंतरिक्ष विभाग/Govt. of India, Dept. of Space
विक्रम साराभाई अंतरिक्ष केंद्र/Vikram Sarabhai Space Centre
तिरुवनंतपुरम/Thiruvananthapuram-695 022

भारतीय अंतरिक्ष अनुसंधान संगठन   Indian Space Research Organisation

इसरो/ISRO