JAGADEESH KUMAR. A

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ELECTRICAL AND EMBEDDED SYSTEMS ENGINEER

AREAS OF EXPERTISE

- Embedded Systems
- Hardware Development
- Electrical Engineering
- UAV Flight Control
- VHDL & SystemC
- Signal Processing
- Microcontrollers
- Telecommunication
- Circuit Design (EAGLE)
- Data Acquisition
- Instrumentation
- Matlab & LabVIEW

SELECTED CAREER HIGHLIGHTS

- Versatile Experience in technical aspects as well as behavioral conduct at **Skylark Drones Pvt. Ltd.** This includes: in-time product delivery, task management and meeting clients' requirements.
- With technical support and financial aid from my Bachelor University, I founded a student organization to develop and research on UAVs, namely, **Student Copters Research Organization (SCRO)**. I also lead the control and power systems domain and successfully developed a custom flight control system for a quadcopter.
- Attained significant exposure in electronic systems by designing a miniature satellite to measure various atmospheric parameters and transmit the data through live feed telemetry to the ground station, while participating at the **Annual CanSat Competition, 2014** held at **Abilene, Texas, USA**, conducted by the prestigious organizations, **AIAA and NASA.**

PROFESSIONAL EXPERIENCE

TECHNICAL UNIVERSITY OF MUNICH, Munich, Deutschland 08/2017 – present
Master's Thesis

- Delivering a hardware solution to measure the atmospheric Carbon dioxide concentration with high accuracy and a precision of 0.02 ppm using Tunable Diode Laser Absorption Spectroscopy.
- Develop and implement the TDLAS control circuit with Temperature controllers and Laser diode drivers.
- Simulate the results and compare with the current available technologies.
- Publish a paper on the results of this hardware and the other contemporary measurement technologies.

SKYLARK DRONES PVT. LTD., Bengaluru, India 08/2015 – 07/2016
Electronics and Flight Control Engineer

- Drove profitable operations, including successful project completions in Aerial surveillance using drones and UAVs.
- Key team member responsible for the electronics integration and monitoring the health of the drones.
- Managed the on-field operations and responsible for live data acquisition from in-flight drones.
- Offered skilled manual piloting of the drones and controlled autonomous navigation.
- Accolades received for actively involving in Research and Development.
- Directed and trained new intern students on handling drones and its electronics.

HS RAVENSBURG WEINGARTEN, Weingarten, Deutschland 10/2016 – 02/2017
System On Chip Designer (Work Student)

- Delivered an 8-bit Tester Chip and Port Expander Board, using development environments such as EAGLE PCB designer and ModelSim.
- Eliminated errors in the design and boosted the performance of the design by 30% with minimum internal memory.
- Created VHDL scripts and Testbench codes to support XILINX FPGA review.
- Simultaneously developed a SystemC program with a focus on the timing and RTL of certain blocks of 8051 Microcontroller and Synthesized the same using XILINX ISE design suit.

HS RAVENSBURG WEINGARTEN, Weingarten, Deutschland 10/2016 – 07/2017
Embedded Computing Engineer

- Developed a system for QR code tracking by image processing using OpenCV and Raspberry Pi.
- Also achieved detection of distance between the Camera and the QR code in all the 3 axis, with a given focal length of the camera.
- Successfully implemented the same for swarm robots, where slave carts would track and follow the master cart holding a QR code.

HS RAVENSBURG WEINGARTEN, Weingarten, Deutschland 10/2016 – 07/2017
Student Assistant

- Designed various Higher Order Filters and implemented them using the Arduino Due Microcontroller.
- Realized various complicated Signal Processing circuits using PicoScope and Matlab.
- Assisted the Research and Development department by testing various DSPs and Communication Systems.

BOEHRINGER INGELHEIM PHARMA GmbH, Biberach, Deutschland 11/2016 – 12/2016
Software Developer (Work Student)

- Successfully presented our team's idea and secured a place at the Boehringer eHealth Hackathon.
- Developed a Raspberry Pi based eHealth monitoring system to record and simultaneously upload the feed values from different health sensors such as Blood Pressure, Temperature, Sugar level sensor, etc. to the cloud.

EDUCATION AND AFFILIATIONS

Qualification ***Master of Engineering in Electrical Engineering and Embedded Systems.***
Duration 09/2016 – 03/2018 (Expected).
Organization Hochschule Ravensburg Weingarten, 88250, Weingarten, Deutschland.

Principal Subjects	**Core Competencies**
▪ Advanced Mathematics	MATLAB, GNU OCTAVE
▪ Signal Processing	MATLAB and Picoscope
▪ Telecommunication Technology	Cadence OrCAD, PSpice
▪ Embedded Computing	C/C++, Rasberry Pi & Arduino
▪ System on Chip	EAGLE, VHDL, SystemC
▪ Embedded Control	MATLAB, Control System

Qualification ***Bachelor of Technology in Electronics and Instrumentation Engineering.***
Duration 07/2011 – 05/2015
Organization SRM University, 603203, Chennai, India.
Principle Subjects
VLSI Design and Embedded Systems, Virtual Instrumentation, Communication Technology, Control Systems, Digital Systems, DSP, Microcontrollers, Power Electronics, Electrical Machines.
Bachelor Project ***Smart Glass:*** *Holographic Projection and gesture control of Computer.*