Anuraj R.

M.Sc.(Tech.) Space Robotics and Automation
M.Sc. Product Management(On Leave)

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I am an Engineer with around 15 years of experience in building hardware and software for ***Automotive, Space, Consumer Electronics and Telecom Sectors.***

Experience

June-2020– Present **SoC Software Engineer**, ***Nokia*** *via Unikie Oy*, Oulu, Finland
Writing real-time and non real-time software for Nokia 5G mMIMO SoC project. Work involves SoC IP hardware bring-up, setting up debugger, performance testing and tuning of SoC IPs on emulators, simulators and engneering samples.

Nov-2015– May-2020 **Embedded Software Engineer**, ***TactoTek Inc.***, Oulu, Finland
Joined the firm when it was a start-up of 15 people and helped it grow to 100 people until Series-C. Was handling all software needs for the firm for around two years after joining. Primarily wrote real-time embedded software for Injection Molded Structural Electronics. I also developed other supporting PC and Linux software needed in the firm.

April,2014– June,2015 **Robotics Engineer**, ***Probot Ltd.***, Oulu, Finland
Developed Embedded Software for different robots. In addition, I wrote higher level programs in Python to interface with embedded-systems and simulator models of robots. I was also involved in designing electronics and printed circuit boards.

Jan-Apr, 2011 **Sr. Project Assistant**, *Bharti School of Communication Tech. and Management, IIT-Delhi*, New-Delhi, India
Involved in a wireless sensor networks project for pollution monitoring. Built a server which would collect data from the various sensors in the network.
The other responsibilities included overseeing some of the product purchases for the project.

Jul-Dec,2010 **Project Assistant**, *Bharti School of Communication Tech. and Management, IIT-Delhi*, New-Delhi, India
Built a light weight GPS tracking system for small endangered turtle species in northern India.

Education

2017– Present **Master of Science in Product Management(On Leave)**, ***University of Oulu***, **Finland**

2011 – 2013 **Master of Science(Technology)**, ***Aalto University***, **Finland**, Erasmus Mundus Double Degree Programme
Master's Degree Programme in Space Science and Technology, Major: Space Robotics

Master of Science, ***Luleå University of Technology***, **Sweden**, Erasmus Mundus Double Degree Programme
Master's Degree Programme in Space Science and Technology, Major: Space Technology

Master's Thesis

Title: **Terrain mapping near the vehicle, SLAM**[1] **and global map building for lunar rover**

Description: The aim of the thesis was to develop a system that would enable a lunar rover prototype to make a 3D terrain map for navigation. **Thesis Grade: 4/5**

2006 – 2010 **Bachelor of Technology**, ***Sardar Vallabhbhai National Institute of Technology (SVNIT)***, Surat, India
Major: Electronics Engineering, Minor: Digital Communication Technology

Bachelor's Thesis

Title: **Design of Medical Ventilator**

Description: The aim of the thesis was to make medical ventilators small and light weight by using a BLDC[2] motor. A BLDC motor was used to control the air-pressure to help the patient in breathing.
Thesis Grade: 9/10

Technical abilities and skills

- I consider myself a systems software generalist with more experience in writing real-time software. I have tinkered in some way or the other with many parts of the computing stack starting from transistor all the way up to user space software.
  A partial list keywords of the technologies I have worked with is listed below.

Languages	C/C++, Python, bash-scripting, C#, Matlab and familiarity with HDL	**RTOS**	FreeRTOS, ZephyrRTOS
Debuggers	Lauterbach Trace32, Segger, GDB, OpenOCD	**CPUs Architectures**	ARM Cortex-M, ARM Cortex-A, RISC-V, AVR, 8051
Electronics	Electronic System Design, PCB Designing	**Other Software**	Yocto, CMake, Qt, git, svn, familiar with Linux Kernel Modules
Embedded Protocols	SPI, I2C, CAN, USART/UART, LIN, SWD	**Robotics-Software**	ROS, VREP, Familiar with Gazebo & MORSE

Miscellaneous Info.

Occasionally some people have found the following information useful, to know a bit more about me.

- Received full scholarship for two years from the European Union which funded my Master's Degree Programme in Space Science and Technology.
- Selected for the national level scholarship/internship programme called Kishore Vaigyanik Protsahan Yojana (KVPY[2]) in 2008 by IISc, Bangalore and IIT-Bombay, which is given to encourage research in India. This provided me funding to spend my summers doing research at IIT-Bombay with a Robotics Professor.
- Cleared IIT-JEE[3]-2006.

[1]Simultaneous Localization And Mapping
[2]Kishore Vaigyanik Protsahan Yojana - Translates to Young Scientist Encouragement Programme
[3]Indian Institute of Technology-Joint Entrance Examination