

# 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– **SoC Software Engineer, Nokia via Unike Oy**, Oulu, Finland
- Present 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 engineering samples.
- Nov-2015– **Embedded Software Engineer, TactoTek Inc.**, Oulu, Finland
- May-2020 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– **Robotics Engineer, Probot Ltd.**, Oulu, Finland
- June,2015 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– **Master of Science in Product Management(On Leave), University of Oulu, Finland**
- Present
- 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<sup>1</sup> 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 motor. A BLDC motor was used to control the air-pressure to help the patient in breathing.

**Thesis Grade: 9/10**

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## 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.

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

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## 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<sup>2</sup>) 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<sup>3</sup>-2006.

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<sup>1</sup>Simultaneous Localization And Mapping

<sup>2</sup>Kishore Vaigyanik Protsahan Yojana - Translates to Young Scientist Encouragement Programme

<sup>3</sup>Indian Institute of Technology-Joint Entrance Examination