

Anuraj R.

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

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

Experience

- Jan-2024– **Senior Software Consultant, Unikie Oy**, Finland
Present Consulting different clients for their software needs.
- Jun-2020– **SoC Software Engineer, Nokia via Unikie Oy**, Finland
- Dec-2023 Writing Embedded real-time and non real-time software for Nokia 5G mMIMO SoC project. Work involved 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 Developed Embedded Software for Injection Molded Structural Electronics(IMSE) products.
- Apr,2014– **Robotics Engineer, Probot Ltd.**, Oulu, Finland
- Jun,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

Master of Science in Product Management(On Leave), University of Oulu, Finland
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, SLAM¹ 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**

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

Technical abilities and skills

- I consider myself a robotics 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	CPU-Archs	ARM Cortex-M, Cortex-A, RISC-V, Xtensa, AVR, 8051
Electronics	Electronic System Design, PCB Designing	Other Software	Yocto, Linux Kernel Modules, CMake, Qt, git, svn
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 (KVPY²) 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.
- Secured an All India Rank of 3738 (**top 1%**) in IIT-JEE³-2006 which is the most competitive Engineering Entrance Examination in India.

¹Simultaneous Localization And Mapping

²Kishore Vaigyanik Protsahan Yojana - Translates to Young Scientist Encouragement Programme

³Indian Institute of Technology-Joint Entrance Examination