

Vinay Lanka

R&D Lead – Robotics and IoT
Neoflux (Part of TI DMG GmbH)

Electronics and Communication Engineering undergraduate from VIT, Vellore
Robotics Software Engineer with competencies in Embedded Systems, IoT and Web Development.

Certified Robotics Software Engineer by Udacity

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github.com/vinay-lanka 🐙

linkedin.com/in/vinaylanka in

Experience

R&D Robotics and IoT Lead – Neoflux (Part of TI DMG)

July 2022 – Present

- *Protection One (Client)* – Developed a solution for a production grade multithreaded VOIP product with G711 alaw encoding and encryption based on the Raspberry Pi CM4 module. Designed a carrier board with suitable components for audio recording, processing and playback.
- *Worked on a set of internal reference projects, blogs for Neoflux (Previously R&D THIS IS! DMG) in the domains of Robotics, Edge ML, IoT. (Link)*

R&D Robotics and IoT Engineer – This IS DMG GmbH

July 2021 – Jun 2022

- *Autonomous Land Mapping Robot* – Developed a fully autonomous exploration robot to map an unknown area in 3D. Designed the chassis, electronics and custom algorithms for navigation. Implemented 2-stage EKF (local and global) with RTK GPS for precise position estimates.
- *Protection One (Client)* – Developed the MVP prototype of the alarm-based VOIP intercom product for Protection One. Used the Raspberry Pi CM4 module.

Intern – Toshiba Machine (Chennai) Pvt. Ltd.

May – June 2019

- *Tnet* is an end-to-end solution designed to help customers view their injection moulding machine data in an intuitive web portal using MySQL, Node.js with Express and AngularJS. Wrote firmware code to extract machine data for visualisation.
- Designed a solution for making injection moulding machines OPC-UA compliant.

Research Papers

- Designing and Implementing Robot-Web-Suite, A Cloud Based Robotics Platform. Published in IEEE RAAICON 2021.

Link: <https://ieeexplore.ieee.org/document/9929637>

Personal Projects

Robot Web Suite

- Implementation of an industry ready robot controller that controls any robot remotely through a web interface. Uses Movelt, roslibjs and ROS control.

Link: <https://www.youtube.com/watch?v=37U62tWk-zE>

Autonomous Mobile Robot (YouTube Series)

- A fully autonomous robot designed from scratch and documented as a YouTube video series.

Link: youtube.com/playlist?list=PLglm6kGwO6a7AVhKQzmrjcVvic0nvtDyT

Raspberry Pi based colour sorter using DoBot Magician

- A colour sorter based on Computer Vision and a robotic arm with an app to show statistics

Link: youtube.com/watch?v=BghCrTwk0t0&t=21s

Arduino-CLI

- Merged feature contributions and bug fixes

Link: github.com/vinay-lanka/arduino-cli

Education

B. Tech - Vellore Institute of Technology, Vellore.

CGPA - 8.83

Skills

ROS (Robot Operating System), Robotics, IoT, Computer Vision, Embedded Systems (Arduino, AVR), Single Board Computers (Raspberry Pi/ Jetson Nano)
Full-stack web development (NodeJS/AngularJS),
CAD (SolidWorks),
Docker, Kubernetes
Programming Languages (C, C++, Java, Go, Python)

Certifications

Robotics Software Engineer Nanodegree – Udacity

Certified SolidWorks Associate (CSWA)

Organisations

IEEE VIT Vellore Student Chapter

Board Member – Technical Lead

August 2019 – September 2020

Achievements

- Cofounded ReTag, a retail security start-up, funded by the TBI-VIT
- Winner and finalist in numerous hackathons
Invited to take a session on Robotics in Orange school – Arani
- Speaker in the Node.IO workshop in the college's technical fest – GraVITas
- Helped organise IEEE Techloop Hack and other events held by IEEE VIT student chapter.

Blogs/Tutorials

Medium – @vinaylanka

- Exploring Embedded - A Primer
- Control any Robotic Arm with ROS
- Making a hyper-engineered water alarm solution

YouTube – Vinay Lanka

- Autonomous Rover from scratch (ROS)