

Vinodh Kumar Reddy Kamasani

Network & IT Infrastructure Support Specialist

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Skills

- Networking:** TCP/IP, DNS, HTTP, DHCP, VLANs, LAN/WAN fundamentals, subnetting, routing/switching fundamentals, OSPF basics, firewalls/VPN basics, Wireshark packet analysis, OMNeT++/INET network simulation
- Wireless & Telecom:** Wi-Fi/IEEE 802.11, Bluetooth, LoRa/LoRaWAN, cellular networks, 5G/O-RAN, Open-RAN, IoT networking
- Systems & Support:** Windows, Linux basics, Windows Server installation, OS troubleshooting, hardware/software installation, system configuration, Remote Desktop Services (RDS) licensing and user access, Microsoft Office Suite, Visual Studio
- Infrastructure & Tools:** Arduino, Raspberry Pi, MATLAB, PSPICE, Edge Impulse, TinyML, IoT systems, cloud connectivity
- Programming:** C, Embedded C, Python

Education

Virginia Tech

Master of Science in Computer Engineering, Networking; GPA: 3.96/4.0

Coursework: Network Architecture and Protocols I & II, IoT System Design, Advanced Real-Time Systems, Computer Architecture, Cellular Communication Systems, 5G-Advanced O-RAN and 6G

Blacksburg, Virginia

Jan 2024 - Dec 2025

Anna University

Bachelor of Engineering in Electronics and Communication Engineering; CGPA: 7.99/10.0

Chennai, India

Aug 2016 - Apr 2020

Work Experience

Siddharth Institute of Engineering & Technology

Technical Assistant (Systems) | Full-Time | IT, Systems & Network Support

May 2020 - Nov 2023

- Installed and configured desktop/server operating systems, system hardware, software applications, Layer 2 transport services, and security configurations
- Managed Remote Desktop Services (RDS) licensing and supported server-based access for institutional users and lab environments
- Troubleshoot hardware, software, operating systems, user access, and network-related issues across desktops, servers, lab systems, and institutional infrastructure to support reliable day-to-day IT operations
- Maintained and upgraded existing systems and carrier-grade networking platforms to enhance network reliability
- Assessed system and software requirements to improve network visibility, scalability, and support for evolving organizational needs

FESTO India Private Limited

Intern

Designed and assembled a CNC machine by integrating pneumatic systems, bus wiring and connections, control circuits, and electrical components, gaining hands-on experience in hardware connectivity, signal flow, and troubleshooting

Jun 2018 - Jul 2018

Publications

Dr. R. Premkumar, and Kamasani Vinodh Kumar Reddy "Design and Implementation of Unmanned ground vehicle for Intrusion Detection" Compliance Engineering Journal, Vol. 13, Issue 7, 2022, pp. 12-23, IF = 6.1. DOI: 16.10089.CEJ. 2022.V13I7.285311.3985

Projects

Network Simulation and Protocol Analysis

- Built OMNeT++/INET network testbeds and used Wireshark packet analysis to identify best-performing Ethernet and wireless configurations, validating full-duplex switching, antenna-gain tuning, and RTS/CTS hidden-node mitigation

IoT System Design

- Designed and implemented an embedded IoT system using LoRaWAN/TTN, MQTT, and Python CSV logging; trained a TinyML gesture-recognition model using Wio Terminal light-sensor readings, achieving 90.6% validation accuracy

Dynamic PRB Allocation xApp for 5G Networks

- Developed a FlexRIC-based xApp prototype for CQI-driven PRB allocation, using 3-tier threshold logic to scale RAN resources by +100%, baseline, or -50% based on low, moderate, and high link quality

UGV for Intrusion Detection

- Designed and implemented a wireless UGV for intrusion detection using camera, radar/IR sensing, and nRF24L01-based 2.4 GHz communication, improving remote surveillance with low-power operation, up to 2 Mbps data rate, and 125-channel support

Application-Specific Reconfiguration of RISC-V BOOM Core

- Optimized RISC-V BOOM core configurations for SHA-256 and FFT workloads, reducing SHA-256 CPI by 25.56% and improving FFT CPI by up to 11.4%

Certifications

Discrete Time Signal Processing (DTSP), NPTEL, 8-week certification course