

# Tarun Krishna Suravarapu

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## Education

**Stevens Institute of Technology**, Hoboken, NJ

**Master of Engineering, Computer Engineering**, May 2024 – GPA: 3.67

**Symbiosis Institute of Technology**, Pune, India, May 2020

**Bachelor of Technology, Electronics & Telecommunications Engineering**, May 2020

**Relevant Coursework:** Digital Systems and Computer Architecture, Discrete Mathematics, Data Structures and Algorithms, Real Time Embedded Systems, Java, Digital Signal Processing, VLSI.

## Technical Skills

**Programming Languages:** MATLAB, Java, Embedded C, Assembly, C++, Kotlin.

**Additional Tools/Skills:** Git, CLI, VS Code, Cisco IOS, Enterprise Networking Protocols, Object Oriented Programming, Keil uVision, STM 32 (Cortex M), Logic Pro X.

## Technical Projects

**V2V communication using LiFi (ongoing):** Developing a V2V model based on LiFi technology and serial communication (UART) to detect vehicles from the opposite lane in a one way street. Techniques Learnt: Embedded C, UART serial communication, hardware interfacing. (2023)

**ADHD detection using Digital Image Processing:** Developed an ADHD (Attention Deficit Hyperactivity Disorder) detection algorithm to track the human iris using the fundamentals of Digital Image Processing. Implemented the algorithm using the image processing toolbox on MATLAB and basic data structures. *Techniques learnt: Circular Hough Transform, Gradient Transform.* (2018)

## Work Experience

**Assistant Manager, Internet Traffic and Routing Engineer**

**Reliance Jio**, Mumbai, India, September 2020 - August 2022

- Planned and managed the traffic flow and capacity upgrades for 5G deployment, in coordination with procurement, Quality Assurance and deployment teams, for Jio's nationally deployed network of Cisco Service provider edge ASR series routers and eNode Bs.
- Extensively worked with Cisco IOS XR to fetch NetFlow and port status of Gigabit Ethernet Line cards.
- Extensively used network visibility and management software like Arbor Sightline to monitor peering and routing status' and internet traffic flow analytics.
- Experience using ITSM (IT service management) tools for change and incident request management.
- Learnt important concepts like BGP, Layer 2, Layer 3 networking and Cisco IOS.

## Project Intern

**Indian Space Research Organisation (ISRO)**, Bengaluru, India, June 2018 – January 2019

- Developed and deployed a positional tracking algorithm on MATLAB to track Low Earth Orbit (LEO) communication satellites currently in orbit.
- The algorithm utilizes Cartesian Geometry to calculate the satellite visibility angles (azimuth, elevation). Input source for the algorithm were 6 initial orbital parameters which were extracted from Two Line Element (TLE) files.
- Used 2D arrays as the primary data structure to perform, analyze and store the data obtained from the algorithm.
- Learnt analysis and testing of huge datasets and debugging of complex code to fine tune an algorithm.