

# THARANEESHWARAN V U

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[LinkedIn](#) | [CodeChef](#) | [GitHub](#) | [LeetCode](#)

## EDUCATION

### IIT Madras

B.Tech, Computer Science and Engineering (Student Exchange Programme)

Chennai, India

July 2025 – May 2026

### NIT Puducherry

B.Tech, Computer Science and Engineering

Karaikal, India

Nov 2022 – May 2025

CGPA: 9.17

### Aditya Vidyashram

Higher Secondary Education

Puducherry, India

June 2021 – July 2022

Percentage: 91.2%

## EXPERIENCE

### IIT Madras | Summer Intern

Chennai, India | May 2025 – July 2025

- Simulated GNSS and RF signal propagation using NVIDIA Sionna and evaluated SDR tools (GNSS-SDR, HackRF) to analyze satellite communication and localization behavior.
- Reconstructed indoor 3D environments with COLMAP and Gaussian Splatting to derive visual priors for RF channel modeling and enable geometry-aware ray tracing simulations.
- Advanced hybrid localization research by integrating wireless signal data with 3D geometry-based ray tracing, optimizing simulation pipelines, and improving reproducibility across the research team.

### IINVSYS | Research and Development Intern

Puducherry, India | May 2024 – June 2024

- Gained in-depth knowledge of C, embedded systems, and STM32 devices.
- Developed a GNSS simulator tool to track satellite orbits, ground paths, and velocity using TCP-based client-server communication between OBC and simulation software.
- Developed and tested firmware for WiFi enabled IoT devices and contributed to Foreign Object Detection solutions.

## SKILLS

### AI / ML:

LangChain, Hugging Face, PyTorch, Scikit-learn, OpenCV

### 3D Vision & Graphics:

LiDAR, Gaussian Splatting, Blender

### Programming:

Python, C, Java, JavaScript, Dart, SQL, HTML/CSS

### Web & Mobile Dev:

Flutter, Firebase, Streamlit, Bootstrap

### Tools & Platforms:

Git, Docker, Selenium, STM32, NVIDIA Sionna

## PROJECTS / PUBLICATIONS

### ARGOS: Leveraging Visual Priors for Scalable Wireless Navigation (Communicated - PerCom 2026)

Sionna RT, COLMAP, Gaussian Splatting, UWB, RF Channel Modeling

- Developed ARGOS, a multimodal wireless digital twin combining visual priors and RF data for adaptive anchor selection and sub-meter indoor localization accuracy in dynamic industrial environments.

### Sionna AI Agent - Advanced RAG Developer Assistant

[\[GitHub Link\]](#)

LangChain, ChromaDB, Hugging Face API (Llama 3, Gemini), Streamlit, Python

- Developed an open-source RAG agent for NVIDIA Sionna, integrating a dual-LLM backend (Llama 3 & Gemini), multi-vector retrieval pipeline, and a two-stage “Draft & Correct” reasoning framework with a Streamlit UI for reliable, context-aware code generation.

### IRBN Canteen : Puducherry - Mobile App

Figma, Flutter, Firebase, VS Code

- Developed a canteen inventory management app for the Police Department using Firebase with secure authentication, supplier-wise tracking, and a Material Design 3 UI supporting future analytics and role-based access.

## HONORS & AWARDS

- NTSE Stage 2 Scholar
- Positions of Responsibility (At NIT PY) : VP [Coding Club & Arts & Crafts Club], ProShow Head [Gyanith-TechFest], Core Member [Le Ciel-CulFest], Treasurer [Association of CS Engineers].