Vignesh Thanigaivel

B.tech Electronics and Communications
Date of Birth: 26-03-2004
Ph: +91 8300829502
Email: vigneshta004@gmail.com

🌐 vigneshta.com
✉ contact@vigneshta.com
</> tavignesh
○ tavignesh
in tavignesh

EDUCATION

- **Vellore Institute of Technology, Vellore** — *2026*
  B.tech Electronics and Communication Engineering with specialization in Biomedical Engineering — CGPA: 8.0

- **Atomic Energy Central School, Anupuram** — *2022*
  Central Board of Secondary Education (CBSE) — Percentage: 93.6

TECHNICAL SKILLS

Proficient: Python, Microcontrollers, HTML, Verilog, Server Administration, Matlab, Simulink, PCB Design, IoT
Competent: Java, C, RUST, AWS, Django, NginX, WebD, IC Design, SQL, NoSQL, Linux, Assembly, Adobe Suite
Familiar: C++, RF Design, LaTeX, 3D Design
Soft Skills: Public Speaking, Delegation, Collaboration, Diligence
Languages: English, Tamil, Hindi, German

EXPERIENCE

- **Indira Gandhi Centre for Atomic Research [IGCAR]** — *Jun. 2024 - Jul. 2024*
  Wireless Sensor Networks (Offline Internship) — Kalpakkam, Tamil Nadu
  - Designed a wireless packet loss testing mechanism using 25 Zigbee modules and a Cortex M0+ SAMD20 microcontroller, demonstrating expertise in wireless communication technologies and advanced microcontrollers.
  - Applied knowledge of IEEE protocols, ADCs, and various wireless communication methods in real-world testing environments.
  - Developed embedded systems using 8-bit to 32-bit and DSP microcontrollers, integrating CPUs, memory, I/O ports, timers, ADCs, DACs, and serial interfaces for efficient, high-performance applications.

- **RC Studios** — *Jul. 2024 - Aug. 2024*
  Server Design & Administration (Hybrid Internship) — Coimbatore , Tamil Nadu
  - Engineered and deployed Nginx-based Linux servers for media streaming with multi-resolution packaging into a single RTMP output stream.
  - Developed a client-side receiver using HLS player technology, enabling seamless RTMP-compatible media playback and format versatility.
  - Utilized FFmpeg to process varied formats and resolutions from a single stream, gaining hands-on experience with port forwarding, IPv6 tunneling, FTP servers, router setup, and static IP configurations.

- **Freelance** — *Jun. 2023 - Present*
  Server Administrator (Hybrid)
  - Assess and recommend equipment for controlling dust, temperature, and humidity in system installation areas to ensure optimal operating conditions.
  - Coordinate and monitor server installations, including server-based software, ensuring systems function according to specifications and validation procedures.
  - Analyze and plan system setups or modifications, recommending new installations or changes to existing systems based on detailed assessments.

- **FreeLance** — *Mar. 2023*
  Website Design (Online)
  - Design, build, host, and maintain websites on servers, including SSL certificate installation for secure access and consistent performance.
  - Install and configure HTTP servers, operating systems, and manage domain name registrations, renewals, DNS records, and security settings.
  - Develop and manage backend databases to support the functionality and data needs of web applications and websites.

PUBLICATIONS

- **Cloud-Controlled Dynamic Smart Street Lighting System** — *16 Feb. 2024*
  2023 International Conference on Next Generation Electronics (NEleX)
  DOI: 10.1109/NEleX59773.2023.10420861 [LINK]

- **IoT and Cloud based Automated Irrigation System** — *02 Jul. 2024*
  2024 3rd International Conference on Artificial Intelligence For Internet of Things (AIIoT)
  DOI: 10.1109/AIIoT58432.2024.10574611 [LINK]