THIRUGNANAM V S

Chennai, Tamil Nadu, India | veluthiru26061976@gmail.com | LinkedIn | GitHub | Portfolio

SUMMARY

Pre-final-year B.Tech Electronics Engineering (VLSI Design & Technology) student at VIT Chennai (CGPA 9.27/10, Department Rank 5) who enjoys building engineering solutions where software and hardware complement each other. Experience spans software development internships, applied machine learning, embedded communication systems, digital hardware, and faculty-supervised research, with one paper submitted to an IEEE conference. Seeking internship roles across software engineering, AI/ML, embedded systems, and VLSI.

EDUCATION

VIT Chennai — B.Tech, Electronics Engineering (VLSI Design & Technology) 2024 – 2028

CGPA: 9.27/10 · Department Rank: 5 · 90 credits completed

Coursework: Digital System Design · Microprocessors and Microcontrollers · Signal Processing · Semiconductor Devices · Control Systems · Circuit Theory · Electronics Materials

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, JavaScript, HTML, CSS

AI & Machine Learning: Machine Learning, Deep Learning, PyTorch, scikit-learn, Natural Language Processing, Signal Processing

Embedded Systems: STM32, Arduino, Embedded C, UART, RS-485, Microcontrollers

Hardware & VLSI: Verilog HDL, Digital Logic Design, FPGA, Quartus Prime, LTspice, MATLAB, Circuit Design

Software Development: React, Node.js, Express.js, Google Apps Script, Git, GitHub

Databases: MySQL, PostgreSQL, Google Sheets

INTERNSHIPS

AI & Machine Learning Intern — Indian Institute of Computing and Technology (IICT), Remote Jun 2026 – Present

- Building end-to-end ML classification systems in structured phases — data pipelines, feature engineering, model comparison, and strict held-out test evaluation.
- Developed modular Python-based ML workflows and documented methodology through technical reports, IEEE-format manuscripts, and well-structured GitHub repositories.

Software Development Engineer Intern — Bluestock, Remote Sep 2025 – Dec 2025

- Developed and debugged features for a web product in a remote engineering team, working through Git-based version control and code-review workflows.

Java Developer Intern — Elevate Labs, Remote Jun 2025 – Jul 2025

- Built Java applications with an emphasis on object-oriented design, implementing data-handling modules with JDBC-backed MySQL persistence.

Python Developer Intern — Oasis Infobyte, Remote Jun 2025 – Jul 2025

- Developed Python applications spanning automation scripts and GUI tools, delivering each as a complete, documented, published project.

RESEARCH EXPERIENCE

Data-Driven Control of Inverted Pendulum Systems Using Reinforcement Learning [GitHub]

- Benchmarked DDPG and PPO policies against a classical LQR baseline in MATLAB, using a custom state-aware reward formulation with fully reproducible results.
- **Paper submitted** to the 2026 IEEE 12th Power India International Conference (PIICON); under review, not yet published.

Smart IMU-Based Parkinson's Symptom Monitoring — Ongoing research under faculty supervision [GitHub]

- Developing deep-learning detection of Parkinsonian tremor from wearable IMU sensor streams, with subject-wise, leakage-free evaluation and preprocessing designed for time-series rigor.

ENGINEERING PROJECTS

RS-485 Serial Communication: STM32F103C8T6 and Arduino UNO with Checksum Verification [GitHub]

- Implemented reliable board-to-board communication over an RS-485 bus in Embedded C — frame format, UART drivers, and checksum-based error detection on both microcontrollers.

Fake News Detection Using Machine Learning [GitHub]

- Built a text-classification system on the ISOT dataset with a modular Python pipeline — TF-IDF features and scikit-learn model comparison — reporting all metrics strictly from the held-out test set.

Smart Task Scheduler [GitHub]

- Developed a JavaFX desktop application that schedules tasks through a comparator-driven priority queue, ordering work by priority level and deadline.

Automated Student Attendance System [GitHub]

- Created a Google Apps Script web system where students mark attendance from their own devices; the backend verifies authenticity with network checks and time-boxed sessions.

Additional projects: Phishing Email Detection · Job Portal (Java, JDBC, MySQL) · Student Management CRUD · 24-Hour Railway Clock · Automated Clothes Hanger with Rain Detection

ACHIEVEMENTS & CERTIFICATIONS

- **Department Rank 5** with CGPA 9.27/10, Electronics Engineering (VLSI Design & Technology), VIT Chennai.
- **2nd Prize, Research Pitch Contest** — defended technical research work before a judging panel.
- **TinyTapeout TT10 Shift Register Design** — designed and verified in Verilog HDL; GDS generated via the automated TinyTapeout ASIC flow.
- **Certifications:** Python · Java · MySQL · JavaScript · HTML & CSS · NPTEL · German language