

EDUCATION

Bangalore, India **PES University (Main Campus)** **August 2023 - Present**

- B.Tech. Major in Electronics and Communications, Minor in Computer Science and Engineering.
CGPA: 8 /10
- **Graduate coursework:** Data Structures, Design and Analysis of Algorithms, Digital Electronics, Digital VLSI Design, Microcontrollers & Embedded Systems, Analog Circuit Design (ACD), Signal Processing, FPGA Design, Computer Networks, Database Systems, Operating Systems, VLSI, Python Programming, Machine learning and application (ML).

Bangalore, India **KLE Independent PU College**

- Intermediate in PCMB. *Percentage: 81%*

Bangalore, India **Shree Siddaganga High School**

- STATE Board, *Percentage: 95%*

INTERNSHIPS AND EXPERIENCE

Data Science with Python Intern **Henry Harvin (Skills India)** **Feb 2026**

- Ongoing Virtual Data Science internship under the Skills India initiative, focused on Python-based data analysis and machine learning.
- Working with Pandas, NumPy, visualization tools, and implementing predictive ML models.

LANGUAGES AND TECHNOLOGIES

- Python, C, MATLAB, VERILOG
- MySQL, VLSI, Machin Learning Modules, Basic React JS, MongoDB
- **Frameworks and tools** – Vivado (simulation), Cadence (Synthesis), GitHub, Jupiter Notebook, VS Code

MAJOR PROJECTS

Machine Learning Based Hardware Trojan Detection in ASIC Circuits **November 2025**

- Implemented a machine-learning-based hardware Trojan detection system by extracting area and power features from ASIC gate-level netlists to identify Trojan-infected circuits.
- Implemented and evaluated seven machine learning models (MLP, RF, SVM, Gradient Boosting, KNN, Logistic Regression, XGBoost) and achieved an average accuracy of 99.7% with 99.5 F-measure.
- **Technologies Used:** Python, scikit-learn, XGBoost, pandas, matplotlib, Synopsys Design Compiler NXT.

Design and Analysis of UART and SPI Data Transfer Using FIFO and CDC **October 2025**

- Designed UART and SPI modules with FIFO buffers for reliable cross-clock data transfer and reduced metastability. Performed timing and CDC analysis to optimize synchronization and throughput.
- **Technologies Used:** Verilog, FPGA, Vivado, Digital Design, FIFO, Clock Domain Crossing.

Student Placement Registration Portal **December 2023**

- Developed a simple web-based Student Placement Registration Portal to collect and manage student data for campus recruitment
- **Technologies Used:** HTML, CSS, JavaScript, React.js, MySQL.

Ongoing Research Project – Hardware Trojan Detection using RTL Feature Extraction using LLM **Jan 2026**

- Working under Prof. Anurous Thomas K, PES University, to design an RTL feature extraction framework leveraging Large Language Models for accurate Hardware Trojan detection. Focused on strengthening hardware security validation and improving detection efficiency at the design level.
- **Technologies Used:** Verilog/System Verilog, RTL Design, Python, Large Language Models (LLMs), Machine Learning, Feature Engineering, CDC Analysis, Model Simulation Tools (e.g., ModelSim/Vivado)

Automatic IIR Filter Design Using RISC-V

April 2025

- Developed a simple web-based Student Placement Registration Portal to collect and manage student data for campus recruitment
- **Technologies Used:** RISC-V, C / Assembly, Digital Signal Processing (DSP), MATLAB.

Implementation of LFSR on FPGA Board

November 2024

- Designed and implemented a Linear Feedback Shift Register (LFSR) using Verilog to generate pseudo-random sequences and validated functionality through simulation and FPGA hardware testing.
- **Technologies Used:** Verilog, FPGA, Vivado/Quartus, ModelSim, Digital Design.

AES-Based Password Manager

October 2025

- Designed and implemented an AES-based Password Manager to securely encrypt and store user credentials using cryptographic security principles
- **Technologies Used:** AES Encryption, Cryptography, Data Security Concepts

ACHIEVEMENTS AND RESPONSIBILITIES

- **Distinction Award Scholarship:** Recipient of **Distinction Award Scholarship** at PES University for securing Distinction in 3rd, 4th, and 5th semesters
- **Minor in Computer Science and Engineering:** Awarded Minor Degree in Computer Science and Engineering at PES University in addition to Major in Electronics and Communication Engineering
- **Udemy Certifications:** Python, Verilog & VLSI, Machine Learning, Web Development.

EXTRA-CURRICULAR ACTIVITIES

- Participated in inter-department Throwball and Cricket competitions at PES University.
- Worked as a volunteer in **CARE INDIA** and **SAVE THE HEALERS**, a non-profit social organization for poor girl child education