

VAISHNAVI D P

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Summary

Electronics and Communication Engineering student with practical experience in AI/ML, IoT, embedded systems, and VLSI design. I have completed internships at Cranes Varsity and Entuple Technologies, where I worked on real-world projects such as emotion recognition, predictive modeling, and asynchronous FIFO design using Verilog, SystemVerilog, and UVM. I've built over 25 IoT projects involving Arduino, sensor integration, and automation, and developed machine learning models using Python, TensorFlow, and scikit-learn. With strong skills in RTL coding, testbench development, and hardware-software integration, I aim to contribute to innovative solutions in embedded systems and VLSI design.

WORK EXPERIENCE

Entuple Technologies | Bangalore, India

Sep 2024 – Jan 2025

ASIC Design and Verification Intern

- Designed and verified an **Asynchronous FIFO** using **SystemVerilog**, achieving **99% functional accuracy** with effective CDC (Clock Domain Crossing) handling.
- Developed **UVM-based testbenches** with reusable components for scalable and modular ASIC verification.
- Gained hands-on experience in **RTL coding**, simulation, and debugging using **Verilog** and **Cadence Xcelium**.

Cranes Varsity | Bangalore, India

Sep 2023 – Oct 2023

VLSI Design Intern

- Learned and applied **RTL design principles** using **Verilog** for developing basic digital circuits.
- Gained hands-on experience in **synthesis, simulation, and debugging RTL code** using tools like **Vivado** and **Cadence**.
- Built a strong foundation in the **VLSI design flow**, including logic design, timing analysis, and functional verification.

Cranes Varsity | Bangalore, India

Aug 2023 – Sep 2023

IoT Intern

- Gained hands-on experience with **Python, Pandas, NumPy**, and **scikit-learn** for data analysis and machine learning.
- Worked on multiple **prediction-based projects** using algorithms like **linear regression, KNN**, and **decision trees**.
- Practiced the full **ML workflow**, including data cleaning, feature selection, model training, and evaluation using **Jupyter Notebook** and **TensorFlow**.

AI & ML Intern

- Built and implemented **25+ IoT projects** using **Arduino, Raspberry Pi**, and various sensors for real-time automation tasks.
- Gained practical experience in **microcontroller programming, sensor integration, and device communication** using **Arduino IDE**.
- Learned to design and test **automated systems**, focusing on smart solutions for home automation and environmental monitoring.

EDUCATION

Atria Institute of Technology | Hebbal, Bangalore

BE in Electronics and Communication Engineering

2021-2025

PROFESSIONAL SKILLS

- **Programming & AI/ML:** Proficient in **Python, C, NumPy, Pandas, TensorFlow, scikit-learn**, with experience in machine learning techniques like regression, classification, and clustering.
- **VLSI & Embedded Systems:** Skilled in **Verilog, SystemVerilog, UVM, RTL design, ASIC verification**, and tools like **Vivado** and **Cadence**; hands-on with **Arduino, Raspberry Pi**, and real-time sensor integration.
- **Tools & Design:** Experienced with **MATLAB, Jupyter Notebook, Arduino IDE**, and creative tools such as **Adobe Illustrator, Premiere Pro**, and **Figma** for technical documentation and design.

VOLUNTEER EXPERIENCE

President - Rotaract Club of Atria I.T.

Jul 2023 – Present

- Led a team of 90+ members, overseeing impactful social projects, strategic partnerships, and leadership initiatives.

Secretary Administrations - Rotaract Club of Atria I.T.

Jul 2022 – Jun 2023

- Managed internal operations, event coordination, and documentation to ensure smooth execution of club activities.

AWARDS AND HONORS

- **Outstanding Performance Award – IUCEE Annual Student Forum**
Honored for a sustainability-focused automation project promoting environmental awareness.
 - **1st Prize – DECTRIX Hackathon**
Won for delivering a high-impact technical solution in a competitive team coding event.
 - **1st Place – CICADA Hackathon**
Awarded for creating a cost-effective Braille device to enhance accessibility for the visually impaired.
- Project Showcase Selection – Reva University Research Conclave (Dextrix)**
- Selected to present "Project Grid," an innovative renewable EV charging system under road surfaces.

PROJECTS

- **Emotion Detection for Children with Autism** (*AI/ML*)
Developed a real-time emotion recognition system using live video feed; integrated AI to analyze facial expressions and suggest appropriate responses using Python and TensorFlow.
 - **Braille Glove** (*IoT & AI*)
Designed a smart wearable device enabling visually impaired users to communicate via Braille-based input with haptic feedback; implemented machine learning to enhance user interaction over time.
 - **Asynchronous FIFO Design and Verification** (*VLSI*)
Designed and verified an asynchronous FIFO using Verilog and SystemVerilog; developed a UVM-based testbench and implemented clock domain crossing (CDC) handling for stable performance.
 - **IoT-Based Smart Automation Projects** (*Embedded Systems*)
Built over 25 IoT projects using Arduino and Raspberry Pi involving various sensors; focused on smart automation, real-time data processing, and device-to-device communication.
- ML Mini Projects** (*AI/ML Intern – Cranes Varsity*)
- Completed multiple machine learning projects involving data cleaning, predictive modeling, and clustering; implemented algorithms such as Linear Regression, KNN, and Decision Trees using scikit-learn and Jupyter Notebook.

CERTIFICATES

- **SystemVerilog Accelerated Verification with UVM v1.2.5 Exam** - Cadence Design Systems
- **SystemVerilog for Design and Verification v21.10 Exam** - Cadence Design Systems
- **SYSTEMVERILOG Language** - Cadence Design Systems