

Empower Excel Elevate



10 Weeks Program in
IoT
Integrated with Top experts from MNCs

ABOUT COMPANY

An Idea of learning and upskilling every single day for the hope of a better tomorrow.

LearnFlu is nothing but an idea. An idea of learning and upskilling every single day for the hope of a better tomorrow. LearnFlu is also a disease, which every being alive wishes to have. A disease of learning something new and interesting for the growth they desire

SUCCESS



WE OFFER



PROGRAM HIGHLIGHTS

WHY THIS PROGRAM IS YOUR BEST CHOICE

- 01 LIVE INTERACTIVE SESSIONS WITH INDUSTRY EXPERTS
- 02 MENTOR-DRIVEN SPRINT-BASED REAL-WORLD TEAM PROJECTS
- 03 LIVE MENTORSHIP
- 04 PERSONALISED MENTORSHIP AND CAREER GUIDANCE
- 05 CAREER ASSISTANCE
- 06 DOUBLE CERTIFICATION & CREDIT REPORT
- 07 PLACEMENT ASSISTANCE

COURSE CURRICULUM



This IoT-focused VLSI Curriculum provides a comprehensive understanding of the IoT ecosystem, including architecture, communication protocols, microcontrollers, Arduino, and ATMEGA328P. It also covers practical hands-on projects involving sensors, actuators, and real-time data communication, ensuring learners gain experience in designing, building, and deploying IoT systems.

Module 1: Introduction to IoT and IoT Architecture
Chapter 1: Basics of IoT
 - Introduction to IoT
 - History and evolution of IoT
 - IoT applications in various industries (smart homes, healthcare, transportation, etc.)
Chapter 2: IoT Architecture Overview
 - IoT architecture layers: Perception, Network, and Application
 - Devices and sensors in the IoT ecosystem
 - Data flow and communication in IoT systems
Chapter 3: Protocols and Standards for IoT
 - Overview of communication protocols in IoT
 - IoT standards: Zigbee, Bluetooth, MQTT, and HTTP
 - Security and privacy issues in IoT systems

Module 2: IoT Wireless Protocols
Chapter 1: Wireless Communication Basics
 - Overview of wireless communication
 - Frequency bands and wireless signal transmission
 - Devices and sensors in the IoT ecosystem
Chapter 2: Bluetooth and Bluetooth Low Energy (BLE) in IoT
 - Bluetooth protocol overview
 - Bluetooth Low Energy (BLE) architecture and use cases
 - Implementing BLE for IoT devices
Chapter 3: Zigbee and LoRa for IoT
 - Zigbee protocol: architecture, use cases, and implementation
 - LoRa and LoRaWAN for long-range, low-power IoT applications
 - Comparison between Zigbee, LoRa, and other wireless technologies

Module 3: Introduction to Arduino and ATMEGA328P
Chapter 1: Introduction to Arduino Platform
 - Overview of Arduino hardware and software ecosystem
 - Types of Arduino boards and applications
 - Basic components of Arduino (microcontroller, power supply, sensors)
Chapter 2: ATMEGA328P Microcontroller
 - Architecture and features of the ATMEGA328P microcontroller
 - Pin configuration and interfacing with peripherals
 - Applications of ATMEGA328P in embedded systems
Chapter 3: Setting up the Arduino Development Environment
 - Installing Arduino IDE on Windows/Linux
 - Overview of Arduino libraries and extensions
 - Writing and uploading your first Arduino sketch

Module 4: Microcontrollers and Embedded Systems
Chapter 1: Introduction to Microcontrollers
 - Basics of microcontrollers and their applications
 - Microcontroller vs microprocessor
 - Architecture of common microcontrollers (8-bit, 16-bit, 32-bit)
Chapter 2: Programming Microcontrollers
 - Basics of embedded C programming for microcontrollers
 - Digital and analog input/output handling
 - Writing basic code to control peripherals (LEDs, switches, sensors)
Chapter 3: Interfacing Sensors and Actuators
 - Understanding analog and digital sensors
 - Interfacing sensors (temperature, proximity, etc.) with microcontrollers
 - Controlling actuators (motors, relays) using microcontroller pins

Module 5: Arduino IDE and Sketch Development
Chapter 1: Exploring the Arduino IDE
 - Overview of the Arduino IDE interface
 - Writing, compiling, and uploading sketches
 - Managing Arduino libraries and extensions
Chapter 2: Writing Arduino Sketches
 - Structure of an Arduino sketch: setup() and loop() functions
 - Writing basic sketches to control sensors and LEDs
 - Debugging Arduino programs and serial communication
Chapter 3: Advanced Arduino Sketch Techniques
 - Using timers and interrupts in Arduino
 - Implementing communication protocols: I2C, SPI, and UART
 - Power optimization techniques for Arduino-based IoT devices

Module 6: IoT Sensors, Actuators, and Data Collection
Chapter 1: Overview of IoT Sensors
 - Different types of sensors used in IoT: temperature, humidity, pressure, etc.
 - Sensor selection criteria for IoT applications
 - Practical implementation of sensors with Arduino
Chapter 2: Actuators and Control Mechanisms in IoT
 - Overview of actuators: motors, servos, relays
 - Interfacing actuators with Arduino and microcontrollers
 - Designing control systems for actuators
Chapter 3: Data Collection and Management
 - Collecting data from sensors and storing it locally
 - Techniques for sending sensor data to the cloud
 - Introduction to cloud platforms for IoT (AWS IoT, Google Cloud IoT)

Module 7: IoT Communication and Networking
Chapter 1: IoT Networking Basics
 - Basics of IP addressing and networking in IoT
 - Local area communication for IoT devices (Wi-Fi, Zigbee)
 - Configuring wireless networks for IoT devices
Chapter 2: Communication Protocols for IoT
 - Overview of IoT communication protocols: HTTP, MQTT, CoAP
 - Implementing MQTT for IoT device communication
 - Real-time data transmission and messaging in IoT systems
Chapter 3: Connecting Arduino to the Internet
 - Connecting Arduino to the internet using Wi-Fi modules
 - Implementing cloud connectivity using Arduino and MQTT
 - Sending and receiving data from cloud platforms

Module 8: IoT Applications and Final Project
Chapter 1: Designing IoT Applications
 - Designing practical IoT applications: smart homes, healthcare, automation
 - Key considerations for designing reliable and scalable IoT systems
 - Case studies of successful IoT applications
Chapter 2: Security and Privacy in IoT
 - IoT security challenges: threats and vulnerabilities
 - Secure communication protocols for IoT devices
 - Ensuring data privacy and integrity in IoT systems
Chapter 3: Capstone Project: Building an End-to-End IoT Solution
 - Project design: building an IoT system using Arduino and ATMEGA328P
 - Interfacing sensors, collecting data, and sending it to the cloud
 - Presenting the project: design, data analysis, and application

2 Weeks Major project

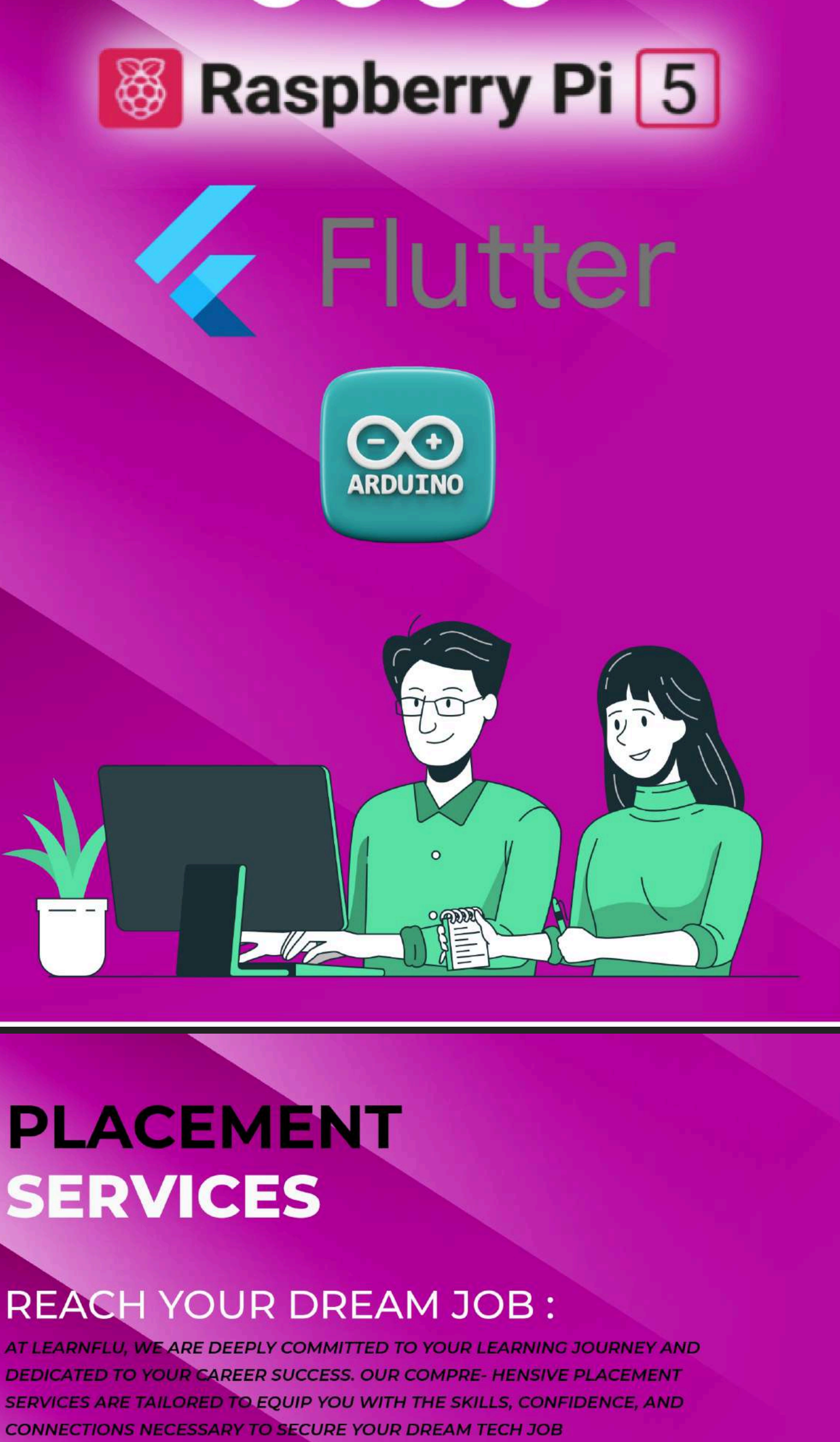
Jobs You Can Apply

- ◆ IoT Developer, ₹5-12 LPA
- ◆ Embedded IoT Engineer, ₹6-14 LPA
- ◆ IoT Solutions Architect, ₹15-30 LPA
- ◆ IoT Cloud Engineer, ₹8-18 LPA
- ◆ IoT Security Specialist, ₹10-20 LPA
- ◆ Data Analyst (IoT), ₹7-16 LPA.

Projects

- ◆ Smart City Infrastructure Management
- ◆ Industrial IoT (IIoT) for Predictive Maintenance
- ◆ Healthcare Remote Patient Monitoring

TOOL BOX



MEET YOUR MENTOR

Vamsi
Company : Google
Experience : 5+ years

Vamsi is a seasoned mentor with an impressive 5+ years of experience in Google, a notable presence in more than 2 multinational corporations. And specializing in the field of cloud computing, Vamsi has contributed his expertise to the successful completion of 20+ projects, with a remarkable individual accomplishment of leading over 2 projects. Beyond technical excellence, he is recognized for his strong leadership qualities. Vamsi's commitment to knowledge transfer is evident through his role in training employees across different companies, further solidifying his reputation as a mentor who not only delivers outstanding results but also nurtures and develops talent within the data engineering domain.

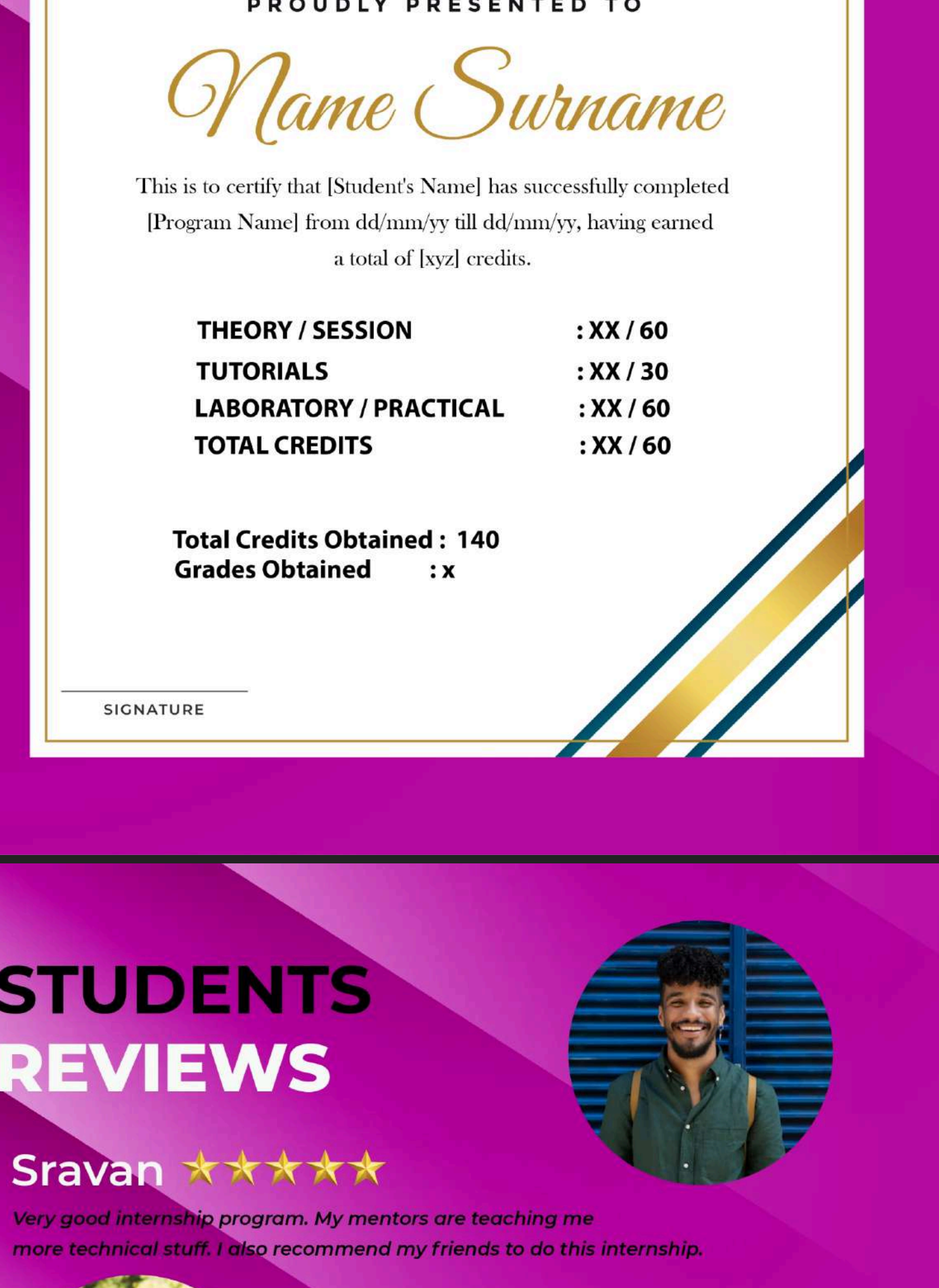
PLACEMENT SERVICES

- REACH YOUR DREAM JOB :
 AT LEARNFLU, WE'RE DEEPLY COMMITTED TO YOUR LEARNING JOURNEY AND DEDICATED TO YOUR CAREER SUCCESS. OUR COMPREHENSIVE PLACEMENT SERVICES ARE TAILORED TO EQUIP YOU WITH THE SKILLS, CONFIDENCE, AND CONNECTIONS NECESSARY TO SECURE YOUR DREAM TECH JOB
- RESUME PREPARATION :
 CRAFT A STANDOUT RESUME WITH EXPERT GUIDANCE TO EFFECTIVELY HIGHLIGHT YOUR SKILLS AND EXPERIENCE, ENSURING YOU CATCH THE ATTENTION OF RECRUITERS.
- SOFT SKILL PREPARATION :
 ELEVATE YOUR COMMUNICATION, TEAMWORK, AND LEADERSHIP ABILITIES WITH ENGAGING LIVE SESSIONS AND CUSTOMIZED FEEDBACK, DESIGNED TO HELP YOU EXCEL IN ANY PROFESSIONAL SETTING.
- HIRING PARTNERS & CAREER PORTAL :
 GAIN ACCESS TO LEADING TECH COMPANIES THROUGH OUR EXTENSIVE NETWORK OF HIRING PARTNERS AND OUR EXCLUSIVE CAREER PORTAL, DESIGNED TO CONNECT YOU WITH YOUR IDEAL JOB OPPORTUNITIES.
- MENTORSHIP
 GAIN HANDS-ON EXPERIENCE THROUGH INTERNSHIPS AND MENTORED PROJECTS, EARNING AN INDUSTRY CERTIFICATE

ADDITIONAL SERVICES

- LinkedIn optimization
 Optimizing your LinkedIn profile can greatly enhance your professional online presence and increase your visibility.
- Career Guidance
 Career guidance plays a vital role in helping individuals navigate the complex and often challenging world of work.
- Career Opportunities
 Career opportunities are essential as they provide pathways for personal and professional growth, financial stability, and the fulfillment of individual potential and aspirations.
- Hands-on experience
 The importance of hands-on experience, especially in the context of professional development and education, is very substantial to land your first job.
- Personality Development
 Personality development is crucial as it enhances overall personal growth, fosters confidence, and improves interpersonal skills, leading to success in both personal and professional life.

CREDIT VALIDATION REPORT



COURSE COMPLETION CERTIFICATE



INTERNSHIP COMPLETION CERTIFICATE



STUDENTS REVIEWS

Sravan ★★★★★
 Very good internship program. My mentors are teaching me more technical stuff. I also recommend my friends to do this internship.

★★★★★ **Vasavi**
 This is the best internship provider with major projects with best experienced mentors.

★★★★★ **Sarvani**
 This is the best internship and training provider company with 100% job assistance

★★★★★ **Raghu Roy**
 This is the best internship provider with major projects with best experienced mentors.

★★★★★ **Aradhana**
 Learnflu seamlessly merges education and technology, offering a dynamic platform for immersive learning experiences. With innovative tools and engaging content, Learnflu elevates the educational landscape.

Kashish Yadav ★★★★★
 Very good internship program. My mentors are teaching me more technical stuff. I also recommend my friends to do this internship.

★★★★★ **Dinakaran**
 Thank you so much learnflu for giving this wonderful opportunity and developed my knowledge.

★★★★★ **Aju Koshan**
 I enrolled for web Data Analysis program for April batch and yesterday was my induction session and session was so good and the mentor Syed Aleem have given very insightful information about this internship & Training Programme and I am very much excited regarding the program

★★★★★ **Priya**
 This is a very good learning platform which offers students training and internship program

OUR ALUMNI WORKS AT



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