# BACK-END WEB DEVELOPMENT

## An Internship Report submitted in partial fulfillment of the requirements for the award of degree of

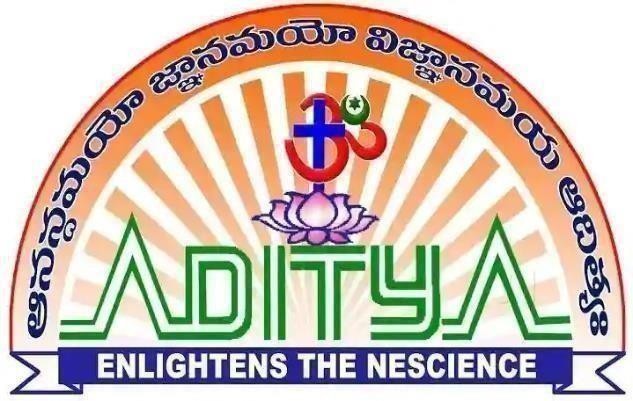
**BACHELOR OF TECHNOLOGY**

**In**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**KATARI SAI VEERENDRA VASU 21MH1A0430**



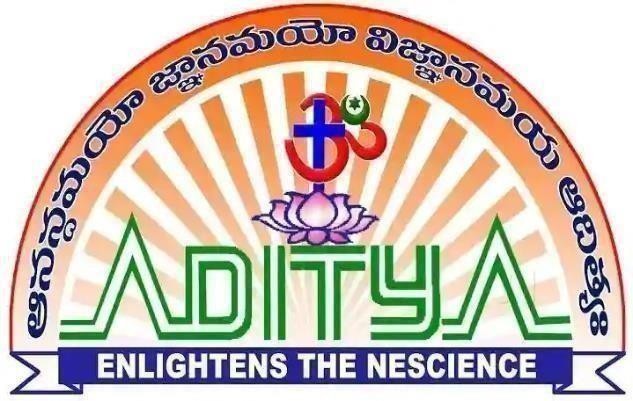
**ADITYA COLLEGE OF ENGINEERING(A)**

Approved by AICTE, Permanently Affiliated to JNTUK & Accredited by NBA& NAAC Recognized by UGC under Sections 2(f) and 12(B) of UGC Act, 1956 Aditya Nagar, ADB Road, Surampalem - 533 437.

# ADITYA COLLEGE OF ENGINEERING(A)

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## Department of Electronics and Communication Engineering



This is to certify that the Internship report entitled is being “BACKEND DEVELOPMENT” submitted by “K.S.V.VASU” . Inpartial fulfillment of the requirements for award of the B.Tech degree in Electronics and Communication Engineering of the academic year 2023- 2024.

**Internship Coordinator: Head of the Department:**

**Mr. M SUDHEER KUMAR REDDY Mrs.CH JANAKI DEVI,** M.Tech,(Phd)

Sr. Assistant Professor Associate Professor

Department of ECE Department of ECE

# Instructions to Students

Please read the detailed Guidelines on Internship hosted on the website of APState Council of Higher Educationhttps**://apsche.ap.gov.in**

1. It is mandatory for all the students to complete 2 months (180 hours) of short- term internship either physically or virtually.
2. Every student should identify the organization for internship in consultation with the College Principal/the authorized person nominated by the principal.
3. Report to the intern organization as per the schedule given by the College. You must make your own arrangements for transportation to reach the organization.
4. You should maintain punctuality in attending the internship. Daily attendance is compulsory.
5. You are expected to learn about the organization, policies, procedures, and processes by interacting with the people 1working in the organization and by consulting the supervisor attached to the interns.
6. While you are attending the internship, follow the rules and regulations of the intern organization.
7. While in the intern organization, always wear your College Identity Card.
8. If your college has a prescribed dress as uniform, wear the uniform daily, as you attendto your assigned duties.
9. You will be assigned a Faculty Guide from your College. He /She will be creating a WhatsApp group with your fellow interns. Post your daily activity done and/or any difficulty you encounter during the internship.
10. Identify five or more learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    1. Data and Information you are expected to collect about the organization and/or industry.
    2. Job Skills you are expected to acquire.
    3. Development of professional competencies that lead to future career success

DECLARATION

I, hereby declare that the entitled internship **“BACK END WEB DEVELOPMENT”** is a genuine work. This work has been submitted to the “**ADITYA COLLEGE OF ENGINEERING”,** Surampalem, in partial fulfillment of the **B.Tech** degree**.** I further declare that this project work has not been submitted in full or part of the award of any degree of this or any other educational institutions.

**K.S.V.VASU 21MH1A0430**

**CERTIFICATE OF INTERNSHIP**



**VISION AND MISSION OF INSTITUTE**

**INSTITUTE VISION:**

To induce higher planes of learning by imparting technical education with International standards, applied research, Creative Ability, Value based instruction and to emerge as a premiere institute.

## INSTITUTE MISSION:

Achieving academic excellence by providing globally acceptable technical educationby forecasting technology through

* Innovative Research and development
* Industry Institute Interaction
* Empowered Manpower

## PEOS OF DEPARTMENT

**PEO1**: Enrich individuals & acquire skills in the fields of Electronics and Communication, software & firmware to produce high impact and futuristic solution

**PEO2:** Facilitate learning in the core field of Electronics and Communication Engineering, research & innovation to have progressive careers.

**PEO3:** Inculcate professional and ethical attitude, team spirit, leadership qualities and effective communication skills to make them aware of their social responsibilities.

**PEO4:** Utilize modern equipment and programming tools to solve real-life multi-disciplinary problems.

## PROGRAM SPECIFIC OUTCOMES

**PSO1:** Apply concepts in Electronics & Communication Engineering to design and implement systems in the areas related to Communication, Image processing, VLSI, Antennas and Embedded systems.

**PSO2**: Demonstrate proficiency in utilization of software and hardware tools related to Electronics & Communication technologies, while acquiring soft skills like persistence, proper judgment through projects and industrial interactions.

## VISIONAND MISSION OF THE DEPARTMENT

**DEPARTMENT VISSION:**

“To be a center of excellence and renewed for electronics and communicationengineering education and research”

## DEPARTMENT MISSION:

* Enlighten the graduates in the basic concepts underlying the principles of analog and digital electronics communication systems and advanced technologies.
* Provide state of the art infrastructure and research facilities.
* Organizing industrial programs and social activities in collaboration with industries, NSS to disseminate knowledge.

## ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to Hydro Tribe Pvt Ltd, for providing me with the incredible opportunity to complete my internship in web front-end web development. This experience has been invaluable, allowing me to apply and enhance my skills in a real-world setting.

I am deeply thankful to **Dr .A. RAMESH** sir our esteemed principal, for his unwavering support and encouragement throughout my academic journey. His guidance has been a source of inspiration, and I am grateful for the opportunities he has provided for my personal and professional growth.

Our deepest thanks to **MS. CH. JANAKI DEVI (M.Tech,(Phd**)**), Associate Professor & Head of the Department,** for inspiring us all the way and for arranging all the facilities and resources needed for our internship.

We wish to thank **Mr. M SUDHEER KUMAR REDDY, Assistant Professor** in ECEfor his support and suggestions during our internship course work

Thank you once again for this enriching opportunity and for the support that has been instrumental in my professional development.

## ABSTRACT

This report encapsulates the comprehensive experiences and learning acquired during my Backend web development internship at Hydro Tribe. Over the course of 22-5-2023 to 21-7- 2023,Back-end web development is a dynamic and rapidly evolving field that plays a pivotal role in shaping the user experience on the internet. This abstract provides an overview of the key aspectsand significance of learning front-end web development.

The learning journey in Back-end web development typically begins with mastering the basics of Python, which structures web content, and DJANGO, which styles and designs the layout.

As learners progress, they deliver into the world of Python , a versatile programming language that adds interactivity and dynamic behavior to web pages.

In conclusion, learning Back-end web development is a rewarding journey that empowers individuals to contribute to the ever-evolving digital landscape. Whether aspiring to be a web designer, Back-end developer acquiring Back-end skills opens doors to exciting opportunities andensures a vital role in shaping the online experiences of tomorrow.

**Learning Objectives/Internship**

## Skill Development:

* Acquire and enhance practical skills in realestate analysis, market research, and property valuation.
* Develop proficiency in Back-end web development technologies, includingDjango and Python.

## Professional Exposure:

* + Gain exposure to the day-to-day operations of areal estate firm, understanding the roles and responsibilities within the industry.
  + Explore the workflow and collaborative processes involved in webdevelopment projects.

## Project Contribution:

* + Actively contribute to real estate projects by providing valuableinsights, data analysis, and innovative solutions.
  + Participate in the development of web interfaces, contributing code and creative input to enhance user experiences.

## Networking Opportunities:

* + Establish professional connections within the realestate and web development sectors through interactions with colleagues, mentors, and industry professionals.
  + Attend networking events or seminars to broadenprofessional connections.

## Time Management:

* + Hone time management skills by balancing responsibilities in real estate analysis and web development tasks.
  + Prioritize and meet deadlines for project deliverables.

## WEEKLY INTERNSHIP ACTIVITIES (WEEK1)

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic /Module completed** |
| 22/5/23 | Monday | Introduction about Web Development |
| 23/5/23 | Tuesday | Features of Web Development |
| 24/5/23 | Wednesday | Advantages and Disadvantages of  Web Development |
| 25/5/23 | Thursday | What is Back-end WebDevelopment |
| 26/5/23 | Friday | Setting up the development environment |
| 27/5/23 | Saturday | Setting up the development environment |

**(WEEK2)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic /Module completed** |
| 29/5/23 | Monday | Introduction to Python |
| 30/5/23 | Tuesday | Introduction to variables |
| 31/5/23 | Wednesday | Introduction to Data types |
| 01/6/23 | Thursday | Basics on Functions |
| 02/6/23 | Friday | Key words in python |
| 03/6/23 | Saturday | Review Session |

**(WEEK 3)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic /Module completed** |
| 05/6/23 | Monday | Python Literals |
| 06/6/23 | Tuesday | Python Operators |
| 07/6/23 | Wednesday | Python Comments |
| 08/6/23 | Thursday | Detail explanation about LOOPS |
| 09/6/23 | Friday | Python Strings |
| 10/6/23 | Saturday | Python Lists |

**(WEEK 4)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic/Module Completed** |
| 12/6/23 | Monday | Python Tuples |
| 13/6/23 | Tuesday | Python Lists vs Tuples |
| 14/6/23 | Wednesday | Python Sets |
| 15/6/23 | Thursday | Python Dictionary |
| 16/6/23 | Friday | Python Functions |
| 17/6/23 | Saturday | Doughts clarify session |

**(WEEK 5)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic /Module completed** |
| 19/6/23 | Monday | Python Build -in - functions |
| 20/6/23 | Tuesday | Python Lambda functions |
| 21/6/23 | Wednesday | Python Files I/O |
| 22/6/23 | Thursday | Python Modules |
| 23/6/23 | Friday | Python exceptions |
| 24/6/23 | Saturday | Python csv, excel , assests |

**(WEEK6)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DAY** | **Name of the Topic/Module completed** |
| 26/6/23 | Monday | ASession on Project  Development |
| 27/6/23 | Tuesday | ASession on Project Development |
| 28/6/23 | Wednesday | Interactive webpages |
| 29/6/23 | Thursday | Creating simple interactive features |
| 30/6/23 | Friday | Creating simple interactive features |
| 1/7/23 | Saturday | Security and best practices |

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**EXECUTIVE SUMMARY**

The six-week internship program on Back-end web development with Hydrotribe was a dynamic and immersive experience designed to equip participants with essential skills and practical knowledge in the rapidly evolving field of web development. Hosted by Hydro tribe, a leading technology company at theforefront of innovation, the program provided a comprehensive overview of Back-end technologies, including DJANGO and PYTHON. Interns had the opportunity to work on real-world projects, gaining hands-on experience in creating responsive and visually appealing user interfaces. Thecollaborative and mentorship-driven environment fostered a culture of continuous learning, enabling interns to develop proficiency in modern frontend frameworks and tools. The program concluded with ashowcase of the interns projects, highlighting their growth and accomplishments. Overall, the internshipnot only enriched participants' technical skills but also cultivated a strong sense of teamwork and innovation within the context of Hydrotribe's cutting-edge projects.

# INTRODUCTION TO WEB DEVELOPMENT

* Back-end development, also known as server-side development, refers to the development ofthe behind-the-scenes logic that powers web applications.
* A backend developer is one who makes use of the technology required to develop the products forthe backend of any website.
* Backend languages are Python, Java, JavaScript, Ruby, C#, and PHP.
* JavaScript is generally considered to be the most versatile backend language. It is used to develop web applications to mobile applications to server less applications
* Back-end development means working on server-side software, which focuses on everything you can't see on a website. Back-end developers ensure the website performs correctly, focusing on databases, back-end logic, application programming interface (APIs), architecture, and servers.
  + **Web Development Frameworks and Libraries:** Frameworks and libraries simplify web development by providing pre-built components and tools. Examples include React, Angular, Vue.js(frontend), and Express.js, Ruby on Rails, and Django (back end).
  + **Version Control:** Version control systems like Git are essential for tracking changes in code, collaborating with other developers, and managing project versions.
  + **Web Hosting and Deployment:** To make a website or web app accessible online, you need web hosting. Platforms like AWS, Heroku, Netlify, and GitHub Pages provide hosting solutions .Deployment involves configuring servers and uploading code.
  + **Responsive Web Design:** Ensuring your web application looks and works well on various devices and screen sizes is crucial. Responsive design techniques and media queries help achieve this.
  + **Web Security:** Web developers must be aware of security best practices to protect against common threats like cross-site scripting(XSS), SQL injection, and data breaches.
  + **Testing and Debugging:** Thorough testing and debugging are essential to ensure your web application functions correctly. Tools like browser developer consoles and testing frame work said in this process.
  + **Continuous Learning:** Web development is a constantly evolving field. Developers need to stay updated with new technologies, best practices, and trends.

## Company Overview

Hydro Tribe, one of the fast-growing companies, Web Designing and all the Digital Solutions to the corporate world and Nation. We are having years of experience in Gardening and landscaping with in-depth expertise in providing end-to- end solutions. We work on diverse projects.

It provides its online learning services from its own branch located in prathipadu.

## Our Vision

We dream of a world where food is free of poisonous chemicals, where everyone has access toclean food and air .We dream of a nation sparkling with a massive tribe of home farmers.

## Our Mission

We provide A to Z assistance in growing easy to maintain food gardens and air pockets usingcontext apt technology and services

# TRAINING

In these 4 weeks of the training, they have provided us the training in Back-End WebDevelopment using different tools.

Theyhave provided us with the training of several technologies like:

* + DJANGO
  + NUMPY

## DJANGO::

Django is a back-end server side web framework .Django is free, open source and written in Python , Django makes it easierto build web pages using Python.

## NUMPY:

* Numpy is a Python library used for working with arrays.
* It also has functions for working in domain of linear algebra, fourier transform ,and matrices
* Numpy was created in 2005 by Travis Oliphant. It is an open source project and youcan use it freely.
* Numpy stands for Numerical Python.

## CHALLENGES FACED

* At the beginning of internship ,I faced difficulty in understandingthe applications and different tools.
* Ifaced difficulty in designing the website
* I faced difficulty in managing college and internship timings.
* Ifaced difficulty in understanding the advanced topics in desigining
* Ifaced difficulty in managing my classes
* Even with these difficulties ,I am able to complete the internship and ithelps me in successful completion.

# Conclusion

Concluding an internship can be a significant milestone in one's professional development.

Here's a summary or conclusion regarding the experience of completing an internship:

**Learning and Growth**: The internship provided an invaluable opportunity to learn and grow both personally and professionally. Through hands-on experience, I gained practical skills, expanded my knowledge, and developed deeper understanding of my chosen field.

**Real-World Application**: The internship allowed me to apply classroom knowledge to real- world scenarios, bridging the gap between theory and practice. I encountered challenges and problem-solving opportunities that helped me develop a more practical perspective on the industry.

**Skill Development:** Over the course of the internship, I had the chance to develop and refine a range of skills, including technical skills specific to the field, as well as soft skills like communication, teamwork, and time management.

**Professional Network:** I had the privilege of working alongside experienced professionals in the industry, which allowed me to build a valuable network of contacts. These connections can be instrumental in future career opportunities and collaborations.

**Mentorship and Guidance**: I benefited from the mentorship and guidance of seasoned professionals who provided feedback, shared their expertise, and offered valuable insights. This guidance was instrumental in my development.

**Contributions to Projects:** Throughout the internship, I actively contributed to meaningful projects, making a tangible impact on the organization. These contributions not only added to my portfolio but also gave me a sense of accomplishment.

**Adaptability:** The internship environment often presented dynamic challenges and changes, forcing me to adapt and think on my feet. This adaptability is a crucial skill that will serve me well in future endeavors.

**Self-Reflection:** The internship allowed me to reflect on my career goals, interests, and strengths. It helped me gain clarity about my professional path and the direction I want to take in my career.

**Resume Enhancement:** Completing this internship has added a valuable entry to my resume, demonstrating to future employers my commitment to continuous learning and professional development.

**Gratitude:** I am grateful for the opportunity to be part of the organization and for the trust placed in me as an intern. I want to express my appreciation to the entire team for their support and mentor ship during this period.

## INTERNAL ASSESSMENT STATEMENT

**Name of the Student : Programme of Study : Year of Study: Group: Register No/H.T.No : Name of the College : University :**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.No** | **Evaluation Criterion** | **Maximum Marks** | **Marks Awarded** |
| 1. | Activity Log | 25 |  |
| 2. | Internship Evaluation | 50 |  |
| 3. | Oral Presentation | 25 |  |
|  | GRAND TOTAL | 100 |  |

Date:

**Signature of the Faculty Guide**

**Certified by**

Date: Seal:

**Signature of the Head of the Department/Principal**