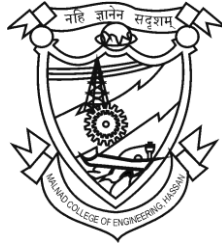


Malnad College of Engineering

(An Autonomous Institution under Visvesvaraya Technological University, Belagavi)

Hassan – 573 202



Internship Report on Computer Science

At Master Control Facility (MCF)

Hassan

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22-August to

02-September 2022

Company Information

The Master Control Facility (MCF) is a facility set up by the Indian Space Research Organisation (ISRO) in the city of Hassan in the Indian State of Karnataka. Established in 1982, this facility is responsible for monitoring and controlling geostationary and geosynchronous satellites launched by ISRO. This was the only Master Control Facility of ISRO till another one was established in Bhopal in 2005.

Internship Description

The internship included courses like Introduction to CSS, Software Engineering and Testing, Software programming using Java and Python, AI/ML-based image detection, Network Programming, and Web-based application programming.

Introduction on CSS

Computer systems and simulations are a process of mathematical modeling performed on a computer. We came to know about telemetry, machine software architecture, network program for information distribution, and some important projects like TAPAS, Auto-ranging, Ground segment automation, Fold RTG, etc.

Software Engineering

Software engineering is a discipline that allows us to apply engineering and computer science concepts in the development and maintenance of reliable, usable, and dependable software. We came to know about the Software development lifecycle models, Software Modeling, Software Requirement Gathering, and Analysis, Software Design, and Implementation.

Software Testing

Testing is the process of finding errors and is one of the last activities in the software life cycle. We came to know about Requirement Analysis, Software Testing types, and Test case generation

Software Programming using Java and Python

The concept was taught right from the beginning to some advanced level concepts like Java multithreading, OOPS using Java, Java exceptions, and GUI using JFrame.

In python, Features of python, Indentation matters, Sequence types, List, Tuples, Strings, Operators, Dictionary, Functions, and Exceptions

AI/ML Based Image Detection

At first, we had a brief introduction about what is ML & AI, the Types of ML, the Steps involved in AI/ML, and some Algorithms, the most interesting part of the course was AI/M-based image detection. The image detection concept was a new and well-planned concept.

Network Programming

We had the basics of network Programming, and TCP/UDP/SNMP socket programming using Java.

Web-based Application Programming

We had an introduction to HTML, CSS, Basics of the web application, Introduction to different web Programming languages like React, Angular, etc

Overview of Internship Experience

Every course was taught right from the beginning to advanced level concepts, from above all mentioned courses, the most interesting course was AI/M-based image detection. This course was an entirely new and well-planned course. Every course had its own hands-on section and MCQ test. The hands-on section was based on the real-time application of what we learned in theory.

During my internship experience with MCF, I was able to develop knowledge about core subjects as well as basic information about how the Master control facility works, what software they use, etc. I particularly found Image detection and web base application Programming to be useful in improving my skill. Although I found some hands-on sections to be challenging, I found them to be valuable in developing my confidence as a programmer.

In conclusion, my experience with MCF was crucial in my development as a good Software Engineer or programmer. I will take the lessons and skills I learned and apply them to my next position.