RAMNIRANJAN JHUNJHUNWALA COLLEGE
Department Of Computer Science

Ghatkopar (West), Mumbai - 86

2023-2024

A internship report submitted for the fulfillment of the program

"MSC. in Computer Science"

By
Yash Sanjay Salvi

Seat No : 513

M.Sc.-II (Computer Science)
University Of Mumbai
2023-2024

RAMNIRANJAN JHUNJHUNWALA COLLEGE
Department Of Computer Science

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CERTIFICATE

This is to certify that **Mr. Yash Sanjay Salvi**

has successfully completed the internship at,

"Inbotics Technologies PVT. LTD"

Under the guidance towards the partial fulfillment of degree of Master of Science (Computer Science) submitted to Ramniranjan Jhunjhunwala College, Ghatkopar(W) during the academic year 2023-2024 as specified by the UNIVERSITY OF MUMBAI.

Course Coordinator

Department Of Computer Science
Prof. Vaidehi Deshpande

Inbotics Technologies PVT. LTD.

Row house, 09, Sector 2 Airoli Rd,
opp. to datta meghe engineering college,
Sundarvan Society, Sector 2, Airoli,
Navi Mumbai, Maharashtra 400708

March 11, 2024

To whom it may concern

This is to certify that MR.Yash Salvi **(Employee ID INB00025)** is employed with our organization since 1st Feb 2021 and is currently designated as **Software Developer**.

As declared by the employee, his residential address as per our records is:-

Room 220 2/7, Vedika Soc. Sagar Nagar,
Upper Depot. Pada, Park Site, Vikhroli
West Mumbai - 400079.

Below is the office location details:-

Inbotics Technologies PVT. LTD.
Row house, 09, Sector 2 Airoli Rd,
opp. to datta meghe engineering college,
Sundarvan Society, Sector 2, Airoli,
Navi Mumbai, Maharashtra 400708

We are not responsible for receiving employees' personal documents or communications via post or courier at our office address.

This certificate is issued to him only to serve as current proof of employment with us

Sincerely,
For Inbotics Technologies PVT. LTD

Date:- 11th March 2024
Anjali Kharatmol
Managing director
9321796344

INBOTICS PVT. LTD.

Creativity and Integrity

Raw House No.11, Opp. Datta Meghe COE,
Airoli Sector-2, Navi Mumbai-400708.
Phone: +91 9004670831, 86552221446
Email: inbotics@gmail.com,
Website: www.inbotics.com

Name of intern : **MR. Yash Salvi**

College/institution: RAMNIRANJAN JHUNJHUNWALA COLLEGE

[Note: Give a score in the 1-5 scale by putting √ in the respective cells]

Sr No	Particular	Excellent	Very Good	Good	Moderate	Satisfactory
1	Attendance	√				
2	Punctuality	√				
3	Adaptability	√				
4	Ability to shoulder responsibility		√			
5	Ability to work in a team	√				
6	Written and oral communication skills		√			
7	Problem solving skills	√				
8	Ability to grasp new concepts		√			

9	Ability to complete task	√				
10	Quality of work done	√				

Signature:

Name : **Anjali Kharatmol**

Designation : **Managing director**

Contact number : 9321796344

Email : inbotics@gmail.com

Software Developer for INBOTICS PVT. LTD.

Description of the organization

The forefront of technological advancement, offering cutting-edge solutions across a spectrum of domains. Established with a vision to revolutionize industries through innovation, INBOTICS has become a hub of creativity and expertise in the realm of technology.

Vision and Mission: Our vision is to harness the power of emerging technologies to address complex challenges and enhance efficiency across various sectors. We are committed to fostering a culture of innovation, creativity, and collaboration, striving to deliver unparalleled solutions that drive meaningful impact. Our mission is to stay at the forefront of technological innovation, continuously pushing the boundaries of what is possible. We aim to empower businesses and individuals alike with trans-formative technologies, enabling them to thrive in the digital age.

Core Values:

1. **Innovation:** We believe in pushing the boundaries of innovation to create solutions that redefine industry standards.
2. **Excellence:** We are dedicated to achieving excellence in everything we do, from product development to customer service.
3. **Integrity:** Integrity forms the cornerstone of our operations, guiding our actions with honesty, transparency, and ethical conduct.
4. **Collaboration:** We foster a culture of collaboration, recognizing the power of teamwork in achieving our goals.
5. **Customer Centricity:** Our customers are at the heart of everything we do. We are committed to understanding their needs and delivering solutions that exceed their expectations.
6. **Continuous Learning:** In a rapidly evolving technological landscape, we embrace a culture of continuous learning and adaptation, staying abreast of the latest trends and advancements.

Areas of Expertise: INBOTICS specializes in a wide array of technologies, including but not limited to:

- **Python Development:** Leveraging the versatility and power of Python to develop robust and scalable applications.
- **Machine Learning:** Harnessing the potential of machine learning algorithms to derive valuable insights and predictive analytics.

- **Artificial Intelligence:** Building intelligent systems that mimic human cognitive functions, enabling automation and smart decision-making.
- **Blockchain:** Implementing secure and decentralized blockchain solutions for enhanced transparency and trust.
- **Image Processing:** Developing advanced image processing algorithms for applications in healthcare, surveillance, and more.
- **Big Data:** Managing and analyzing vast amounts of data to extract actionable insights and drive informed decision-making.
- **Cloud Computing:** Leveraging cloud infrastructure for scalable and flexible computing resources.
- **Android Development:** Designing and developing innovative Android-based applications to meet the needs of today's mobile-first world.

Join us at INBOTICS Pvt. Ltd. and be a part of the technological revolution shaping the future of industries worldwide. Together, let's innovate, create, and transform the world with technology.

Description about the activities done by the section where the intern has worked:

As a software developer within our organisation, you are an integral part of our team that focuses on implementing various projects using cutting-edge technologies. Our section is tasked with developing innovative solutions that cater to a wide range of domains, including but not limited to Python, machine learning, artificial intelligence, blockchain, image processing, big data, cloud computing, and Android-based applications.

Key Responsibilities:

Project Development: Your primary responsibility involves actively participating in the development life cycle of our projects. This includes requirements gathering, designing, coding, testing, and deployment. Each project presents a unique set of challenges and requires a creative approach to problem-solving.

Technology Integration: You will be working with a diverse set of technologies. It is essential to stay updated with the latest advancements in each domain and seamlessly integrate them into our projects where applicable. Whether it's leveraging machine learning algorithms for predictive analysis or implementing blockchain for secure transactions, you will have the opportunity to explore and utilise a wide array of tools.

Collaboration: Collaboration is key to our success. You will collaborate closely with cross-functional teams, including project managers, designers, data scientists, and quality assurance engineers, to ensure the timely delivery of high-quality solutions. Effective communication and teamwork are essential for achieving our objectives.

Problem Solving: Our projects often involve complex problems that require innovative solutions. As a software developer, you will be expected to analyze problems critically, propose viable solutions, and implement them efficiently. This may involve researching new technologies, experimenting with different approaches, and iterating until optimal results are achieved.

Quality Assurance: Ensuring the quality of our software products is paramount. You will be involved in writing and executing test cases, conducting thorough QA testing, and debugging any issues that arise. Attention to detail and a commitment to delivering bug-free software are crucial aspects of your role.

Documentation: Documentation plays a vital role in the software development process. You will be responsible for documenting your code, technical designs, and project specifications to facilitate knowledge sharing and maintainability. Clear and

comprehensive documentation enables smooth collaboration among team members and ensures the long-term success of our projects.

Continuous Learning: Technology is constantly evolving, and continuous learning is essential to stay ahead. You will be encouraged to explore new technologies, participate in training programs, attend conferences, and engage in professional development activities to enhance your skills and expertise.

Conclusion:

As a software developer in our organisation, you will have the opportunity to work on diverse and challenging projects spanning multiple domains. Your role will involve leveraging the latest technologies, collaborating with cross-functional teams, solving complex problems, ensuring quality, and continuously learning and growing. We are committed to providing you with a supportive and dynamic work environment where you can thrive and make meaningful contributions to our projects and the organisation as a whole.

Description of work allotted and actually done by the intern:

During the internship period, I was assigned various projects encompassing Android app development, Python server-side development with MySQL database integration, React Native development, and Flutter app development. These projects provided me with a diverse range of experiences and challenges, allowing me to enhance my skills in different technology stacks. In this report, I will provide a detailed account of the work allotted to me and the tasks I performed throughout the internship.

Android App Development with Flask and MySQL

- Conducted extensive research on Android app development best practices.
- I designed UI mockups for the app using Adobe XD and Figma.
- Implemented various features using Java and Kotlin programming languages for Android.
- Integrated Flask APIs for fetching and sending data to the MySQL database.
- Collaborated closely with the backend team to ensure smooth communication between the Android app and the server.
- Conducted thorough testing and debugging to ensure app stability and performance.
- We incorporated user feedback and made necessary improvements to enhance the app's usability.

React JS Development with Flask and MySQL

- Set up the development environment for React js app development.
- Designed UI components using React js built-in components and third-party libraries.
- Implemented navigation using React Navigation for seamless user flow.
- Integrated Flask APIs for backend communication with the MySQL database.
- Ensured compatibility and performance by conducting testing on both Android and iOS platforms.
- Optimised performance through profiling and debugging techniques.
- Implemented push notifications using Firebase Cloud Messaging (FCM) to enhance user engagement.

Android App Development with Firebase

- Developed an Android app using Firebase as the backend solution.
- Utilised Firebase Authentication for user authentication and authorization.

- Integrated Firebase Realtime Database or Firestore for real-time data synchronisation.
- Implemented Firebase Cloud Messaging (FCM) for push notifications.
- Ensured a seamless user experience and responsiveness in the app.

Flutter App Development with Flask and MySQL

- Set up the Flutter development environment for cross-platform app development.
- Designed UI components using Flutter's widget system.
- Implemented navigation using the Navigator widget.
- Integrated Flask APIs for backend communication with the MySQL database.
- Ensured responsiveness across various screen sizes and devices through rigorous testing.
- Implemented platform-specific features using plugins to enhance the user experience.

React Development with Spring Boot and MySQL

- I developed a web application using React for the front end.
- Integrated Spring Boot as the backend framework for RESTful APIs.
- Utilised MySQL for database management.
- Implemented CRUD operations for data manipulation.
- Ensured high performance and scalability through optimisation techniques.

HTML Development with Flask and MySQL

- I created a web application using HTML for the front end.
- Integrated Flask for server-side logic and routing.
- Utilised MySQL for database management.
- Implemented user interfaces and functionalities using HTML, CSS, and JavaScript.
- Ensured data integrity and security through proper validation and authentication mechanisms.

HTML Development with Java and MySQL

- Developed a web application using HTML, CSS, and JavaScript for the front end.
- Utilised Java for server-side programming.

- Integrated MySQL for database management.
- Implemented business logic and data processing using Java servlets or JSP.
- Ensured seamless interaction between the front-end and back-end components.

Machine Learning Projects and Image Classification:

- I worked on various machine learning projects, including image classification tasks.
- Utilised Python libraries such as TensorFlow, Keras, and scikit-learn for machine learning models.
- Trained and evaluated models for image classification using convolutional neural networks (CNNs) and other techniques.
- Implemented preprocessing techniques for data augmentation and feature extraction.
- Conducted performance evaluation and fine-tuning to improve model accuracy.

Conclusion:

Throughout the internship period, I had the opportunity to work on diverse projects spanning multiple technologies and platforms. From Android app development to server-side programming and cross-platform mobile app development, each project presented unique challenges that allowed me to enhance my skills and knowledge. I am grateful for the valuable learning experience and the guidance provided by the mentor and team members. Moving forward, I am confident in applying the skills and expertise gained during the internship to future projects and endeavours.

Self assessment:

During my internship period, I have gained valuable knowledge and experience that have significantly contributed to my personal and professional growth. This self-assessment reflects on the technical skills and interpersonal abilities I have acquired throughout the internship.

Technical skills learned:

Android App Development: I have learned the fundamentals of Android app development, including designing user-friendly interfaces, implementing features using Java and Kotlin, and integrating with backend services. Through projects involving Android development, I have gained a solid understanding of the Android ecosystem and best practices for creating robust mobile applications.

Cross-Platform Development: Working on projects utilising React Native and Flutter has broadened my understanding of cross-platform development. I have learned how to create mobile applications that maintain a consistent look and feel across different platforms while optimising performance. Understanding the nuances of each framework has equipped me with the ability to choose the most suitable technology stack for future projects.

Backend Development: My experience in developing backend solutions using Flask and Spring Boot has been invaluable. I have learned how to design and implement RESTful APIs, interact with databases such as MySQL, and ensure the security and scalability of backend systems. This knowledge is essential for building robust and scalable web and mobile applications.

Database Management: Working with MySQL databases has enhanced my understanding of database management systems. I have learned how to design efficient database schemas, perform CRUD operations, and optimise database queries for improved performance. This knowledge is essential for ensuring data integrity and reliability in software applications.

Machine Learning and Image Classification: Through machine learning projects, I have gained exposure to various algorithms and techniques for data analysis and prediction. Specifically, working on image classification tasks has taught me how to preprocess data, train machine learning models using TensorFlow and Keras, and evaluate model performance. This experience has broadened my skill set and opened up new avenues for exploring data-driven solutions.

Interpersonal Skills Developed:

Communication: Collaborating with team members from diverse backgrounds has improved my communication skills. Whether discussing project requirements, sharing ideas, or providing updates on progress, effective communication has been essential for ensuring smooth workflow and project success.

Problem-Solving: Tackling complex challenges during project development has honed my problem-solving abilities. I have learned how to analyse problems critically, identify root causes, and devise effective solutions. This experience has taught me to approach challenges with creativity and perseverance.

Teamwork: Working as part of cross-functional teams has reinforced the importance of teamwork. I have learned how to collaborate effectively, leverage the strengths of team members, and contribute to collective goals. Building strong relationships with colleagues has fostered a positive work environment and facilitated knowledge sharing.

Time Management: Balancing multiple tasks and meeting project deadlines has improved my time management skills. I have learned how to prioritise tasks, allocate resources efficiently, and adapt to changing priorities. This experience has equipped me with valuable organisational skills that will be beneficial in future endeavours.

Overall, my internship experience has been incredibly rewarding, providing me with a solid foundation in software development and equipping me with a diverse set of technical and interpersonal skills. I am confident that the knowledge and experience gained during this internship will serve me well in my future career endeavours.