

SUMMER INTERNSHIP REPORT

By: **Kiran Patil**

211070904

BTECH in Computer engineering

Under the supervision of:

Dr. S. G. Bhirud



Company: **Modelez international**

Duration: 1th June, 2023 – 31th July, 2023



DEPARTMENT OF COMPUTER ENGINEERING AND INFORMATION
TECHNOLOGY

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

(An Autonomous Institute Affiliated to Mumbai University)

(Central Technological Institute, Maharashtra State) Matunga, MUMBAI – 400019

CERTIFICATE

This is to certify that Kiran Patil (211070904) is a student of B. Tech. Computer Engineering has successfully completed his internship at Mondelez International for a duration of two months to our satisfaction.

Internal Supervisor

Industrial Supervisor

Head of Department

Dr. S. G. Bhirud

Mr. Manoj Biwalkar

Dr. Mahesh Shirole

Department of CE and IT

Mondelez International

Department of CE and IT

VJTI, Mumbai

Mondelez International, Mumbai

VJTI, Mumbai

Place: Empire Complex Lower Parel, Mumbai

Date: 4th August, 2023

APPROVAL SHEET

The Final Internship Report by Kiran Patil is satisfactory and approved for Degree of Bachelor of Technology.

Internal Supervisor

Industrial Supervisor

Head of Department

Dr. S. G. Bhirud

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VJTI, Mumbai

Place: Embassy Tech Village, Bengaluru

Date: 4th August, 2023

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INTERNSHIP CERTIFICATE:



Date: 31st July 2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Kiran patil was working as an intern with Mondelez India Foods Private Ltd. for a period of around 2 months from 1st June 2023 to 31st July 2023 with the MDS function. During this period, he worked on the project under the guidance of Manoj Biwalkar.

During the project we found Kiran to be diligent & hard working. We wish him all the best for his future endeavors.

Confidentiality clause: During the project Kiran has been privy to confidential information of Mondelez India Foods Private Ltd. We strongly advise him not to use, disclose, disseminate or present such information in any form and in any forum. Use or disclosure of such confidential information shall render such a person to legal action.

Permission of the internship guide/ mentor is advised before submitting a copy of the project in college.

Yours Sincerely

manoj biwalkar

manoj biwalkar (Oct 4, 2023 15:06 GMT+5.5)

Manoj Biwalkar

MDS AMEA Customer Experience

Kiran Patil

Kiran Patil (Oct 4, 2023 18:11 GMT+5.5)

Kiran patil



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STATEMENT OF CANDIDATE

I, Kiran Patil (211070904) state that the work embodied in this Internship Report forms my own contribution to work at Mondelez International as an intern. The report reflects the work done during the period of internship from 1st June 2023 to 31st July 2023. No part of this work has been used by me for the requirement of another degree except where explicitly stated in the body of the text and the attached statement. I assert that statements made, and conclusions drawn are an outcome of my internship work and are true to my knowledge.

I further certify that:

1. The work contained in the report is original and has been done by me under the supervision of my supervisor.
2. I have followed the guidelines provided by the college in writing the report.
3. Wherever I have used materials (text, data, theoretical analysis equations, codes, figures, etc.) from other sources, I have given due credit to them in their report by giving their details in the references.

Name: Kiran Patil

Roll No: 211070904

Date: 4th August, 2023

Place: Mumbai

ACKNOWLEDGMENT

I would like to express my heartfelt gratitude and appreciation to Mondelez International for providing me with the invaluable opportunity to embark on an enriching internship experience. This summer internship has been an incredible journey of growth, learning, and professional development, and I am truly honored to have been a part of the Mondelez International team.

Firstly, I want to express my appreciation to VJTI TPO head Dr N P Gulhane and the HR department at Mondelez International and all the support staff who have played a pivotal role in ensuring a smooth and productive internship experience.

Secondly, I would like to thank my internship mentor, Dr S. G. Bhirud for her support and guidance throughout the internship period.

I am deeply thankful to all the individuals who have guided and supported me throughout this internship. My sincere gratitude goes to my supervisor and mentors, Mr. Rajesh Kannan Ramasamy and Dr. Sweta Srivastava for their unwavering guidance, mentorship, and encouragement. Their insights and expertise have been instrumental in shaping my understanding of the industry and enhancing my skills. I am also grateful for having the chance to meet so many wonderful people who led me through my internship period.

I would also like to extend my thanks to the entire team at Mondelez International for their warm welcome and collaborative spirit. The camaraderie and teamwork I experienced during my time here have left a lasting impact on me.

I am grateful for the opportunities I had to work on challenging projects and tasks, which not only expanded my skill set but also deepened my understanding of the financial sector. The exposure to real-world scenarios and the chance to contribute to meaningful projects have been truly enriching.

My time at Mondelez International has been an invaluable chapter in my professional journey, and I am excited to carry the lessons, experiences, and relationships I have gained forward with me. Thank you once again for this incredible opportunity.

Sincerely, Kiran Patil

ABOUT MONDELEZ INTERNATIONAL

Mondelez International stands as a venerable pillar of the American financial landscape, boasting a legacy dating back to its establishment in 1852 during the California Gold Rush. With a steadfast commitment to delivering excellence, the bank has evolved into a stalwart institution, providing a wide spectrum of financial services that cater to the needs of individuals, businesses, and institutions alike.

The institution's offerings encompass an impressive range, including retail and commercial banking, mortgage lending, investment banking, and wealth management. By embracing technological advancement, Mondelez International ensures that its services remain easily accessible through an extensive network of branches and ATMs, supplemented by intuitive digital banking solutions. This dedication to innovation underscores the bank's responsiveness to the ever-evolving needs of its customers.

Mondelez International's core values of integrity, customer focus, and community engagement drive its operations. Through its responsible banking practices, the institution has fostered a culture of accountability, ensuring that its customers' financial well-being takes precedence. This commitment to ethical conduct and customer satisfaction distinguishes Mondelez International as an institution that prioritizes long-term relationships and mutual growth.

Recognizing the importance of community, Mondelez International actively engages in philanthropic endeavors, striving to make positive contributions to society. These efforts underscore the bank's commitment to social responsibility and its role in promoting economic vitality and inclusivity in the communities it serves.

In conclusion, Mondelez International's enduring legacy, commitment to innovation, ethical foundation, and community engagement position it as a cornerstone of the American financial sector.

Through its unwavering dedication to positive values, the bank continues to empower individuals and businesses, fostering financial well-being and contributing to the overall prosperity of the nation.

ABSTRACT

During my internship at Mondelez International, I was engaged in a multifaceted role that encompassed data analysis, frontend development using React.js, and backend development using Flask. Throughout this experience, I honed my skills in the following areas:

In-depth Data Analysis: A significant portion of my internship involved conducting thorough data analysis on diverse financial datasets. I applied advanced analytical techniques to extract valuable insights and trends, contributing to well-informed decision-making processes. By synthesizing and visualizing this data, I played a role in enhancing the organization's understanding of market dynamics and risk assessment.

React.js Frontend Development: Another crucial aspect of my internship was leveraging React.js to design a web-based portal. Collaborating closely with the design team, I translated conceptual designs into interactive and visually appealing components. This involved creating intuitive user interfaces, optimizing user experiences, and ensuring seamless navigation. Through React.js, I contributed to the development of a dynamic and engaging portal that catered to user needs.

Flask Backend Development and API Creation: Additionally, I had the opportunity to work on backend development using Flask, a versatile Python web framework. I was responsible for creating robust routing mechanisms that facilitated smooth communication between the frontend and backend components of the portal. Furthermore, I designed and implemented RESTful APIs using Flask, enabling the exchange of data and interactions between different parts of the application.

In summary, my internship at Mondelez International provided me with a comprehensive experience spanning data analysis, frontend development using React.js, and backend development using Flask. This multidimensional exposure allowed me to develop analytical skills, gain insights into the financial industry, and enhance my proficiency in modern frontend and backend technologies.

CHAPTER 1: INTRODUCTION

As a cornerstone of the financial landscape, Mondelez International has a storied history of adaptability and progress. My internship at Mondelez International delved into the fusion of data analytics, React.js frontend expertise, and Flask backend mastery to create a cutting-edge portal. Over the course of my internship, I had the privilege of working on a project that combined cutting-edge technologies such as React.js for frontend development and Flask for backend implementation. The primary objective of this project was to design and develop an intuitive portal that would streamline various processes and enhance user experiences within the organization.

My role in this internship was multifaceted, involving web development aspects. I was entrusted with the responsibility of harnessing the power of data to derive meaningful insights that could guide the design and functionality of the portal. For the front-end development, I employed React.js, a cutting-edge JavaScript library known for its flexibility and scalability. This allowed me to create a visually engaging and user-friendly interface that catered to the diverse needs of the portal's users. I collaborated closely with the design team to translate conceptual designs into functional front-end components, ensuring a seamless and aesthetically pleasing user experience. On the backend side, I leveraged Flask, a powerful Python web framework, to build the foundation of the portal's functionality. This involved implementing data handling, user authentication, and various interactive features. The Flask backend served as the backbone of the portal, facilitating efficient communication between the front end and the underlying data sources.

Throughout my internship, I had the privilege of working in a collaborative and innovative environment at Mondelez International. The experience provided me with valuable insights into the financial industry's technological landscape, as well as the chance to contribute to a project that directly impacted the organization's operational efficiency and user satisfaction.

In the following sections, I will delve deeper into the specifics of my role, the technologies I employed, the challenges I encountered, and the successful outcomes achieved during my time as an intern at Mondelez International.

CHAPTER 2: OBJECTIVE OF WORK

As an intern, the main objectives centered around gaining practical experience and a thorough knowledge of the various technologies used. The key goals were:

Exploring Pathways and Bridging Theory with Practice: Internships offer a unique avenue for individuals to navigate potential career routes ahead of graduation. They serve as a bridge between academic theories and real-world applications, aiding in self-assessment and skill alignment within one's chosen field.

Unveiling the Power of Training Internships: Within the realm of training internships, lies an opportunity to grasp firsthand experience and refine skills within a specific domain. These experiences mold participants into adept professionals, equipped with practical insights crucial for their future journey.

Showcasing Skills and Embracing the Learning Journey: A key aspect of internship goals involves not only highlighting existing proficiencies in the chosen domain but also displaying an earnest enthusiasm for continuous learning. This tandem of skills and curiosity creates an enriching internship venture.

Crafting Resumes with Experience and Expertise: Internships serve as a goldmine for enriching resumes and honing skills that can be paraded in future job pursuits. Experiential learning during internships speaks volumes to potential employers about an individual's capabilities.

Unearthing Insights through Data Analysis: Delving into the depths of financial trade data, the objective is to unearth valuable insights, detect trends, and decipher patterns. This analytical endeavor empowers decision-makers with a comprehensive understanding, aiding strategic choices in a dynamic market landscape.

Navigating User Interface Evolution: Tasked with orchestrating a seamless transition from an antiquated user interface to a modern iteration, the goal encompasses not just retaining functionality but also enhancing user delight through aesthetics, intuitive navigation, and interactive elements. This transformation aims to elevate client engagement within a platform.

Professional Development: Actively seek opportunities to enhance personal and professional growth, such as attending training sessions, networking events, and workshops, to gain a broader perspective on the banking and finance industry.

CHAPTER 3: WORK DETAILS

WEEK	PERIOD	TASKS
1	5-6-2023 to 11-6-2023	<ol style="list-style-type: none">1. Onboarding process2. Connecting with the team3. Workspace and tools.4. Setting up VDI and raising tickets for software5. Company Policies and Practices to be followed6. Introduction about the entire project and walkthrough7. Mandatory compliance and behavior Training
2	12-6-2023 to 18-6-2023	<ol style="list-style-type: none">1. Introduction to the problem statement.2. Detailed overview of the project and outcome expected.3. Brainstorming about different ways to approach the problem statement.
3	19-6-2023 to 25-6-2023	<ol style="list-style-type: none">1. Deciding the tech stack that will be required for building the solution.2. Dividing the tech stack between the team members on the basis of proficiency and interests.3. Drawing the initial workflow diagram of the solution decided by the team members. Making changes based on the review by the managers and mentors.
4	26-6-2023 to 2-7-2023	<ol style="list-style-type: none">1. Installation of Python and miniconda environments.2. Getting access to the MongoDB database.3. Learning React.js and web development fundamentals.4. Setting up all the required libraries.5. Getting access to the confidential data on which the problem statement is given.
5	3-6-2023 to 9-7-2023	<ol style="list-style-type: none">1. Started with data analysis on the given confidential dataset.2. Visualizing different trends and important facts from the data.3. Simultaneously started with building a web portal for displaying the trends with react.js.4. Explored different data analysis methods each having its advantages, and narrowed them down with guidance from managers.5. Mid-term review with senior managers, getting their feedback on the progress and inputs for the next steps of the project.

6	10-7-2023 to 16 -7-2023	<ol style="list-style-type: none"> 1. Working on the points mentioned in the mid-review. 2. Continuing building the web portal. 3. Adding charts and visualizations to the portal. 4. Working on the backend and creating the API routes.
7	17-7-2023 to 23-7-2023	<ol style="list-style-type: none"> 1. Adding final touches to the web portal. 2. Preparing the final presentation. 3. Final Demo with senior managers. 4. Writing the documentation. 5. Code refactoring.
8	24-7-2023 to 29-7-2023	<ol style="list-style-type: none"> 1. Extending the project with 2 more data analysis methods. 2. Extending the web portal. 3. Document the changes made once approved by supervisor. 4. Code refactoring. 5. Once all changes are approved, push the final code on Git Hub.
9	30-7-2023 to 4-8-2023	<ol style="list-style-type: none"> 1. Code refactoring. 2. Updating documentation. 3. Knowledge transfer to a wider team. 4. Demo to reporting and hiring manager. 5. One-on-one meeting with the managers. 6. Device handover and exit process formalities. 7. Farewell.

CHAPTER 4: TECHNOLOGY LEARNED

1. React.js:

React.js is a widely-used JavaScript library for building dynamic and interactive user interfaces. Developed and maintained by Facebook, it simplifies the creation of reusable UI components, streamlining web development. React employs a virtual DOM (Document Object Model) to efficiently update only the necessary parts of a webpage, enhancing performance. Its component-based architecture fosters modular, maintainable code, making it a top choice for single-page applications, progressive web apps, and mobile app development. With a robust ecosystem of libraries and a supportive community, React.js empowers developers to craft responsive, user-friendly web applications with ease.

2. Flask:

Flask is a lightweight and flexible Python web framework used for building web applications. Known for its simplicity and minimalism, Flask provides the core tools and libraries needed for web development while allowing developers to choose additional components based on their specific project requirements. It follows the WSGI standard and includes features like URL routing, template rendering, and support for extensions, making it a popular choice for creating web applications, APIs, and microservices. Flask's simplicity and scalability have made it a favored option for both beginners and experienced developers looking to build web applications quickly and efficiently.

3. JavaScript:

JavaScript is a versatile and widely used programming language primarily employed for front-end web development. It enables the creation of interactive and dynamic elements within web pages, enhancing the user experience. JavaScript is supported by all modern web browsers, making it a crucial tool for building responsive and engaging web applications. Its capabilities include DOM manipulation for altering web page content, event handling to respond to user actions and asynchronous programming for handling tasks like data retrieval. Additionally, JavaScript can be used on the server side through platforms like Node.js, extending its utility to full-stack web development and a wide range of application domains.

4. Git/Github:

Git is a distributed version control system (VCS) that enables developers to track code changes efficiently. It maintains a detailed history of modifications, facilitating collaboration and the ability to switch between different code versions. GitHub, a web-based platform built around Git, serves as a collaborative hub for code hosting, project management, and issue tracking. It simplifies teamwork by offering features like pull requests and integrations with various development tools. Git and GitHub together empower developers to work seamlessly on projects, manage code repositories, and contribute to open-source initiatives, enhancing the transparency and efficiency of software development processes.

5. Microsoft Excel:

Microsoft Excel, the venerable spreadsheet juggernaut, is the canvas on which data-driven stories unfold. From intricate calculations to intuitive data visualization, Excel empowers users to transform raw data into insights. It's the embodiment of cells, formulas, charts, and macros—a platform that both novices and experts wield to extract meaning from numbers.

6. Data analysis tools:

Data analysis libraries refer to specialized tools and packages used by data analysts and data scientists to manipulate, process, and visualize data effectively. These libraries provide a wide range of functions and methods for tasks such as data cleaning, transformation, statistical analysis, and machine learning. Some popular data analysis libraries in Python, for instance, include:

7. QuickBase :

Quick Base is a versatile cloud-based platform that empowers organizations to create tailored business applications without the need for extensive coding. It's often referred to as a low-code or no-code platform, as it simplifies the development process. With Quick Base, users can design databases, build custom applications, automate workflows, and analyze data, all through an intuitive interface. This flexibility makes it a valuable tool for streamlining processes, enhancing collaboration, and adapting to evolving business needs. It's used across various industries for tasks like project management, customer relationship management, data tracking, and more, offering scalability and security to meet the requirements of businesses of all sizes.

8. Microsoft PowerApps

Microsoft PowerApps is a low-code application development platform that allows users to create custom apps and automate processes without extensive coding skills. It's part of the Microsoft Power Platform and integrates seamlessly with other Microsoft services like SharePoint, Dynamics 365, and Office 365. PowerApps enables businesses to build apps to solve specific needs, connect with various data sources, and streamline workflows, making it a powerful tool for improving productivity and efficiency within the Microsoft ecosystem.

9. Microsoft Azure

Microsoft Azure, commonly referred to as Azure, is a comprehensive cloud computing platform and infrastructure service provided by Microsoft. It offers a wide range of cloud-based services that include computing, analytics, storage, networking, and more, making it a one-stop solution for businesses and developers looking to build, deploy, and manage applications and services. Azure provides a global network of data centers, which enables businesses to scale their applications easily and efficiently. It also offers various tools and services for artificial intelligence, machine learning, and Internet of Things (IoT) solutions. Azure is known for its flexibility, scalability, and integration with Microsoft's other products, making it a popular choice for organizations of all sizes.

CHAPTER 5: LEARNING AND EXPERIENCES

My internship journey provided me a valuable experiences and knowledge in various aspects of software development and quality assurance. Throughout the weeks, I acquired essential skills and insights, including:

Learnings:

1. **Data Analysis Proficiency:** The extensive data analysis of daily financial trade data enhanced your skills in data manipulation, statistical analysis, and deriving actionable insights. You learned to navigate complex datasets and extract valuable information for strategic decision-making.
2. **Financial Insights:** Engaging with financial trade data provided deep insights into market trends, risk assessment, and volatility. This experience expanded your financial acumen and showcased how data-driven insights influence financial strategies.
3. **Software Development Skills:** Participating in UI migration exposed you to software development practices, including coding, version control, and collaborating within cross-functional teams. You honed skills in front-end development and gained practical experience in a software development environment.
4. **Technical Proficiency:** Through hands-on experience, I acquired technical proficiency in data analysis, React.js for frontend development, and Flask for backend development. These skills are valuable assets for my future career.
5. **Web Development Expertise:** Building an entire user-friendly frontend using React.js and crafting a robust backend with API routes using Flask honed my web development skills. I gained insights into creating interactive and efficient web applications.
6. **Professional Collaboration:** Working closely with the team at Mondelez International taught me the importance of effective collaboration in a corporate setting. I learned how to communicate and coordinate with professionals from diverse backgrounds.
7. **Mentorship and Learning:** The mentorship and guidance I received were invaluable. Interacting with experienced professionals inspired me to continue my learning journey and seek excellence in my work.
8. **Corporate Environment Exposure:** Immersing yourself in the corporate environment of Mondelez International granted you insights into industry norms, compliance standards, and professional conduct. This exposure cultivated your ability to navigate a corporate setting effectively.
9. **Documentation Proficiency:** Engaging in projects necessitated meticulous documentation of procedures, methodologies, and outcomes. This experience honed your documentation skills, essential for preserving project knowledge and aiding future endeavors.

10. **Project Management Insights:** Collaborating on projects exposed you to project management fundamentals. You gained insights into planning, resource allocation, and timeline management, crucial skills in driving successful project outcomes.
11. **Agile Modelling Understanding:** Engaging in agile modeling practices acquainted you with agile methodologies, emphasizing iterative development and adaptability. This experience prepared you for dynamic work environments that require flexibility and continuous improvement.

Experiences:

1. **Hands-on Financial Data Analysis:** Immersing yourself in real-world financial data strengthened your ability to work with complex datasets. You gained hands-on experience in data preprocessing, statistical analysis, and generating actionable insights.
2. **Real-World Application:** My internship provided me with the opportunity to apply theoretical knowledge gained from coursework to real-world scenarios, bridging the gap between academia and practicality. These learnings have not only enriched my technical skill set but have also equipped me with a holistic understanding of the corporate world and the financial sector. They will undoubtedly shape my future career and professional development positively.
3. **Corporate Work Etiquette:** Working in a corporate environment introduced you to professional conduct, workplace etiquette, and the significance of adhering to industry standards. This exposure prepared you for future roles in similar settings.
4. **Documentation Practices:** Engaging in documentation demonstrated the value of well-structured documentation in preserving project knowledge and aiding collaboration. You learned how to create comprehensive documentation for reference and knowledge sharing.
5. **Presentation Mastery:** Crafting and delivering presentations refined your ability to communicate complex technical concepts effectively. This experience prepared you to convey insights and findings to diverse audiences with clarity and impact.
6. **Project Management Exposure:** Collaborating on projects allowed you to witness project management in action. You gained insights into project planning, resource allocation, and timeline management, valuable skills for future project-oriented roles.
7. **Agile Modelling Dynamics:** Engaging with agile modeling practices familiarized you with agile methodologies, adapting to changing requirements, and delivering incremental improvements. This experience equipped you with agility in managing dynamic project landscapes.

My internship at Mondelez International has been a transformative experience, equipping me with technical expertise in data analysis, web development, and automation. Beyond skills, I've imbibed the values of ethical conduct, collaboration, and a commitment to excellence, setting a strong foundation for my future career in the financial industry.

CONCLUSION

My nine-week internship at Mondelez International has been an invaluable journey of learning and growth. Throughout this experience, I've had the privilege to work on a diverse range of projects, from data analytics to front-end and back-end development.

One of the most significant takeaways has been the exposure to the dynamic and innovative world of banking and finance. I've gained firsthand insights into how a leading financial institution like Mondelez International operates, its commitment to customer satisfaction, and its focus on ethical conduct.

During the initial weeks of onboarding and team integration, I gained valuable insights into the corporate world's practices and norms. This foundational knowledge prepared me to tackle the challenges that lay ahead. The exposure to a dynamic team environment, coupled with setting up essential tools such as VDI and software tickets, allowed me to seamlessly transition into project-focused work.

Additionally, the technical skills I've acquired, particularly in data analysis, React.js, and Flask, have enriched my toolkit as a future software professional. Building an entire user-friendly front end and crafting a robust backend with API routes has given me hands-on experience in web development. The automation of data analysis tasks using Python libraries has highlighted the importance of efficiency in handling large datasets.

Above all, the support and mentorship I received from the team at Mondelez International have been instrumental in my learning journey. Collaborating with professionals who are passionate about what they do has inspired me to continue pushing boundaries and seeking excellence in my work.

In conclusion, my internship at Mondelez International has been an enriching experience that has not only deepened my technical skills but has also provided me with valuable insights into the financial industry. It has prepared me to tackle real-world challenges and has strengthened my determination to contribute meaningfully to the field of software development. I'm grateful for this opportunity and excited about the prospects that lie ahead in my career.

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