

# INTERNSHIP EXPERIENCE REPORT

## SYNCHRONY

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### Abstract:

This report documents my enriching internship experience as a software developer at Synchrony, a prominent financial services company, working under the mentorship of Mr. Mahendar Vangala. During my internship, I had the privilege to work on diverse projects utilising technologies such as Python, Tableau, SQL, PySpark, Hive, and Hadoop. This report aims to present a comprehensive overview of my internship journey, highlighting the projects undertaken, skills acquired, and the professional growth achieved during my time at Synchrony.

Under the mentorship of Mr. Mahendar Vangala, a seasoned professional and expert in software development, my internship experience was elevated to new heights. His guidance and expertise proved invaluable in shaping my technical skills and providing me with insights into the intricacies of software development in a corporate setting. Mr. Vangala's mentorship not only enhanced my technical capabilities but also instilled in me a strong sense of professionalism, attention to detail, and a commitment to delivering high-quality solutions.

### Initial Trainings and Courses:

After the Onboarding we have been assigned compliances courses on workday for better understanding of the rules and regulations, do and don'ts, security checks one needs to follow while working for a financial bank as Synchrony.

Compliance courses offer a structured curriculum designed to educate employees on the legal and ethical standards that govern their industry, as well as the specific policies and procedures within the organisation. By familiarising employees with compliance regulations, these courses aim to minimise the risk of non-compliance, fraud, and unethical behaviour, while also safeguarding the organisation's reputation and financial well-being.

Following are the Courses assigned and takeaways:

**Outbound Data Sharing:** This course has made me understand the risks associated with sharing data with third parties. Understanding one's role and responsibility when sharing

data with third parties. And to learn about the applicable and how they relate to areas of concern

**Information Security:** This was a mandatory information security eLearning course which outlines important Information Security concepts and actions one must take to remain compliant with the acceptable use policy, as well as best practices to follow for the detection, prevention and proper response to potential incidents. Further the information learned has helped me to protect Synchrony from cybersecurity threats while providing the knowledge you need to protect company, customer and employee information.

**Workplace Physical Security:** one's personal safety at work is of paramount importance. This course is designed to teach employees how to protect an organisation from criminals, espionage, workplace violence, natural disasters and other threats. This Course has taught physical security best practises through real-world simulations in the online mode.

**Risk: Code of Conduct:** All employees were required to read and acknowledge our code at the time of hire, and then every year thereafter. This course provided an introductory summary to the important Synchrony Financial policies governing integrity and business conduct.

**Social engineering:** Social engineering attacks remain the number one information security threat facing modern companies around the world. the most common social engineering attack methods such as Phishing, Vishing or SSMishing were discussed in this course. These attacks which can compromise systems or computers, either by tricking users into launching malware, ransomware, or spyware or by stealing credentials for fraudulent purposes.

**Diversity:** This course's aim was to enlighten employees how important it is in this modern workplace to welcome different cultures where people's differences should be not only accepted but valued and appreciated.

**Fraud Awareness and red flags:** In the course I have learned common fraud threats and the strategies used by Synchrony Bank to identify, detect, and respond to "Red Flag" indicators of identity theft.

**Records and Information management:** I have learned effective handling of companies records and transitory information in this RIM course.

**Agile Fundamentals :** Throughout the course, I have gained insights into Agile project management techniques such as Scrum, Kanban, and Lean. This course laid a strong foundation for me to succeed in Agile-driven environments and contribute to the overall success of my organisations.

**Jira fundamentals:** The Jira Fundamentals course offered me a comprehensive overview of Jira, a widely-used project management and issue tracking tool. I have learned how to navigate the Jira interface, create and manage projects, and track issues and tasks.

### Vertical allotment:

After the completion of above mentioned compliances courses and trainings, based on my skills in C,C++,python programming languages, Query language SQL, and expertise in data analytical mindset, I have been allotted the CTO vertical stand for Chief Technology Office as Intern Software developer, Mentored by Mr.Mahendar Vangala.

The CTO vertical encompasses a diverse range of responsibilities and functions within Synchrony. At its core, the CTO office focuses on leveraging technology to drive transformative change and empower the organisation to navigate the digital landscape effectively. This vertical is responsible for driving technology strategy, assessing emerging technologies, managing enterprise-wide IT infrastructure, and ensuring the security and reliability of Synchrony's technological ecosystem.

### Major Projects and Tasks:

- 1) **CECL code modifications:** CECL stands current estimated credit losses , this is a code which is used to estimate Credit losses for a financial bank over a period of time,Our main goal was to lower the execution time for the code to process, there we modified the code in order to lower the high execution time by removing unwanted models in the code,removed snippets of code which are no longer in the use and modified the code to run on this new modifications and fixing bugs and errors on the way, included functions which can be used to pass parameters to the code rather than hard coding for every parameter in the script.The other optimization was to remove the time expense spent on converting from one dataframe to other,This was handled partially and then the modified code is cleaned and converted into script for easier execution.

For this project the skills I have spent sharpening are PySpark, a powerful open-source data processing framework that seamlessly integrates with Apache Spark, enabling efficient distributed computing and large-scale data analytics using Python , Pandas a popular open-source data manipulation and analysis library for Python, providing efficient and intuitive data structures and functions to handle structured data and Anaconda enterprise. My mentor Mr.Mahendar was a great help in making me understand core concepts of these technologies and their application in real world tasks.

- 2) **Tableau Dashboard:** Tableau is a leading data visualisation and business intelligence software that enables users to easily create interactive and insightful visualisations from various data sources, empowering data-driven decision-making.in this project I

have worked on re-designing some aspects of the tableau dashboard which is used to assess the quality of the data that is being fed to various estimation models and not to forget to analyse the trends in the data. For the same I have modified the dashboard to have differentiable colours for data points that fall out of a certain standard deviation window , manifesting the outlier tracking and trend analysis easier. The next modification was to provide the user the ease to select the data the user want to focus on, for this I have created custom filters and provided the range of data points which can be altered to set the range of the data points to consider in the visualisation, this saves time of analysing big data and easier interpretation of the current trends in the data.

This assignment has enhanced my proficiency and comprehension in leveraging visualisations for business intelligence and strategic planning, thereby rendering my envisioned position as a data scientist even more enticing and compelling.

- 3) **ETL tasks:** ETL (Extract, Transform, Load) tasks are crucial data integration processes that involve extracting data from various sources, transforming it to meet specific requirements or standards, and loading it into a target system, enabling organisations to consolidate, analyse, and derive insights from disparate data sources efficiently and effectively. ETL tasks play a fundamental role in data warehousing, data migration, and ensuring data quality and consistency throughout the data lifecycle.

Essentially, we encountered an extensive array of 20+ distinct warehouses from which we needed to Extract, Transform, and Load data into the destination system for advanced analysis. To streamline and automate this process, I meticulously crafted a bespoke PySpark code, eliminating the necessity of crafting repetitive ETL queries for each warehouse individually. This comprehensive solution accepts the warehouse name as a parameter, enabling seamless processing and loading into the target system, thereby significantly reducing human effort associated with redundant tasks. The implementation of this task leveraged the prowess of `pyspark.sql()`. Notably, the code encompasses several remarkable features, including a metadata table that captures the progress of warehouse completion, allowing us to identify pending warehouse data for processing and focus solely on those specific warehouses. Additionally, this code offers the flexibility to input any valid SQL query and configure the respective target system, thus facilitating automation across all provided tables.

## Soft Skills and Personal development:

Throughout my internship at Synchrony, I was fortunate to engage in a diverse range of immersive workshops and seminars centered around fostering professional growth. These

thoughtfully curated sessions were meticulously designed to increase my proficiency in effective communication, adept networking prowess, and the cultivation of a polished and refined professional disposition. The comprehensive agenda encompassed a exclusive learning sessions including:

**1. Your Project**

A training session I attended emphasised project management, equipping me with valuable knowledge on project initiation and execution. I gained an understanding of the significance of defining project goals, creating a plan, assigning tasks, and efficiently managing resources. This newfound comprehension of essential project management principles will undoubtedly enhance my ability to tackle intricate projects successfully.

**2. Business Communication Etiquette:**

This course helped me to elevate my proficiency in crafting impactful emails, I actively engaged in a comprehensive training session that delved into the nuances of business communication etiquette.

**3. Effective Networking and Personal Branding:**

Networking is crucial for career growth and creating professional opportunities. To improve my networking skills, I attended a session that shared valuable insights on effective strategies. I learned about the importance of building authentic connections, using social media, and maintaining professional relationships. The session also highlighted the significance of personal branding for establishing a positive professional image.

**4.Participating Effectively in Business Meetings:**

Attending and actively engaging in business meetings is a crucial skill for professionals. I had the chance to improve my meeting etiquette and participation skills through a training session. The session focused on key aspects such as attentive listening, providing valuable input, and productive collaboration.

**5.Presentation Skills Training :**

Presenting ideas and information with effectiveness holds immense importance in the professional realm. To enhance my presentation skills, I participated in a training session that emphasised techniques for delivering impactful presentations. The training equipped me with valuable tips and strategies to confidently deliver persuasive presentations.

**6.Visibility at Work: Making a Positive Impact:**

Creating visibility and leaving a positive impression in the workplace are vital for advancing in one's career. I took part in a session that focused on strategies for

enhancing visibility within the organisation. These valuable insights will empower me to actively contribute to the team and establish myself as a valuable member.

#### **7. Word and Outlook Training**

Having proficiency in software tools is vital for streamlined work processes. I participated in training sessions for Word and Outlook, where I gained a comprehensive understanding of their functionalities and features. These sessions contributed to improving my skills in creating professional documents, efficiently managing emails, and effectively utilising the diverse tools within these software applications.

### **Conclusion:**

The technical expertise I gained during my internship, coupled with the meaningful relationships I cultivated and the vibrant company culture I experienced at Synchrony, have undoubtedly paved the way for promising future career prospects. I am sincerely grateful for this remarkable opportunity, and I am confident that the profound experiences I acquired at Synchrony will leave a lasting impact on my professional journey ahead.