

A Detailed Review of Summer Internship Experience at Deloitte

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ABSTRACT

During my summer at Deloitte as a Computer Science Consulting Intern, I applied my technical skills to enhance the quality of a healthcare system application. To achieve this, I applied testing methodologies within a team tasked with developing a modernized healthcare platform for a client. The responsibilities included identifying and addressing defects, validating testing processes, and improving defect reporting. I also contributed to the development of an AI-driven tool used for automating property claim verifications. These experiences strengthened my technical skills as well as deepened my understanding of the depth of the consulting world. The internship was able to allow me to experience the combination of my technical expertise with consulting practices and when combined successfully, I saw that they can bring meaningful improvements in client work. Looking ahead, I am eager to explore the intersection of these two worlds more fully, with a focus on the entire consulting lifecycle, allowing me to see meaningful solutions to client work within diverse teams.

1. INTRODUCTION

As a Computer Science student, joining a “Big Four” consulting firm like Deloitte initially seemed unconventional. However, my summer internship showed me the critical role technical skills play in consulting. Deloitte thrives on diverse teams, with members from various backgrounds tackling complex

problems. My technical expertise in software testing contributed to the modernization of a healthcare system, where I worked closely with team members from different workstreams, including project management and data science.

At Deloitte, teams are composed of individuals with a range of experiences, enabling them to address complex challenges. My role in the project focused on identifying and resolving defects in the application. I collaborated with the testing team and other workstreams as we integrated ideas to create effective solutions through multiple angles.

Through this experience, I learned that consulting relies on the combination of diverse skills. Although I was initially unsure of how my computer science background would fit, I soon realized that my technical expertise was an asset to the team.

2. RELATED WORKS

The role of technical skills in consulting has evolved significantly recently with the outburst of the technological transformation in today’s modern society. In the field of consulting, traditional work was primarily focused on business strategy and solutions, but now companies are increasingly integrating advanced technologies to provide better solutions for clients. According to Nissen (2018), modern consulting companies are using tools like data mining, semantic

technologies, and other technological methods to address more complex client needs. This demand means that technical consultants are uniquely positioned to act as a bridge in the gap between business strategy and technology implementation. During my time at Deloitte, I saw firsthand how having a technical foundation allowed my team and me to support the project efforts.

Continuing the discussion of advancing technologies, it is critical to mention the integration of artificial intelligence (AI) and machine learning (ML) in the workforce and how necessary it has become for technical workers to have in their toolkit. Sarirete, et al. (2022) notes that firms are deploying AI and ML models to develop predictive learning to optimize business processes in fields like finance and healthcare. This integration is made possible when consultants possess a deep understanding of data-driven systems. My work on automating property claims verifications at Deloitte highlighted such work. As I used ML techniques to streamline the analysis process, this experience taught me that there is an increasing demand for consultants who possess both technical and business skills.

3. PROJECT DESIGN

During my summer internship at Deloitte contributed to both internal client work and an innovative AI-driven solution. My primary focus was on enhancing a healthcare application through rigorous testing and defect management. Additionally, I collaborated with fellow interns to develop an AI tool aimed at automating property claims verification. The following subsections provide a deeper dive into each project.

3.1 Project Overview

My primary role during the internship was as a Testing Analyst, specifically working on quality assurance testing support. My task was

enhancing the functionality of a healthcare system application through defect management and User Acceptance Testing (UAT). I collaborated with different workstreams within the same project such as the Project Management stream to make the resolution process more streamlined. Outside of my internal project teamwork, I worked on a separate, intern-specific project that focused on developing an AI-driven tool for automating property claims verifications.

3.2 Defect Management and Testing

Before I joined the team for my summer internship, much of the application's development had already been completed. The healthcare platform had been modernized to meet the client's sleek and user-friendly design specifications. However, by the time I came on board, the project had shifted into a critical phase focused on extensive testing to ensure the application's full functionality. My role was to support this rigorous testing process and address any issues to prepare the system for deployment.

The healthcare application initially faced several defects, which were impacting its usability and delaying timelines. I supported the UAT team and the testing team in identifying and resolving over 300 open defects. To begin, I analyzed defects reported by developers through the JIRA platform where all open defects were consolidated. Each defect had a range of severity from critical all the way to low. By going through each defect, I was able to get a sense of where the application was lacking. I would engage in dialogue with the developers who opened the defects, and we would map the steps needed to be taken to resolve these defects.

This analysis and attempted resolution allowed the team to prioritize issues, making sure critical defects that had the potential to derail the application were dealt with first. The

analysis was also consolidated into a daily defect report sent to leaders of the project to maintain efficient communication and understanding of where we were in the project. After this, I assisted the UAT team by validating and drafting scripts users would take to traverse through our application. The following walkthrough illustrates how a UAT script was structured, and how it guided testers step-by-step through specific tasks. Step one is to identify all prerequisites the user needs to have to access the desired outcome of the script. For example, if the user is attempting to find plans for annuitants, they need to be signed in and labeled as such. For step two, the user needs to confirm that the application should be deployed in a UAT environment that mirrored the production setup but was not the actual site to prevent interference. In step three, the user needs to populate data available to them, such as personal information and plan details that mimicked the specific case. The last step was to directly run the steps that were given for the user to execute. For example, a script may prompt the user to navigate to the home page and go through various pages to complete a certain task such as off-boarding family members on the plan they were enrolled in. Overall, approximately 400 different scenarios needed to be tested, each covering various use cases ensuring the robustness of our testing.

3.3 Property Claims Verification

The entire intern cohort participated in an Innovation Challenge, where we were tasked with developing a project that leveraged Artificial Intelligence to optimize a specific business process for the company. Teams were split into influencers and builders. The influencers focused on functional applications of our project and how we could successfully create use cases with our work. As part of the builder team, we developed a property claim verification application aimed at authenticating property claims to prevent tax

and property fraud. Our solution involved using AI models to assess property models to assess property images and accompanying data (e.g. from realtor websites) against submitted claims to ensure legitimacy. This tool was designed to benefit property assessors, tax assessors, and potential clients looking to purchase at fair prices. Table 1 below shows the core objectives, use cases, potential value, and key considerations that guided the development of our project:

Section	Description
Problem Statement and Solution	Authentication of property claims to prevent property and tax fraud. The solution involved using AI models to verify property images and data to ensure claims are legitimate.
Use Case	Users upload an image and relevant data (e.g., from realtor websites) for the AI model to assess the accuracy of the claim.
Audience	Property Assessors, Tax Assessors, Clients interested in purchasing properties at fair prices.
Potential Value	Improved accuracy (automated verification), increased productivity, scalability, cost efficiency, regulatory compliance, and better resource allocation.
Risks & Mitigation	Ensuring data privacy, AI reliability, and legal compliance.

Table 1: Purpose of Project

The team I was on benefited greatly through this learning experience by gaining a deeper understanding of how to integrate AI solutions into business processes.

4. ANTICIPATED RESULTS

The anticipated outcomes from this experience reflect the broad impact of my work across different initiatives:

First, my work in defect management and UAT directly contributed to improving the healthcare application's quality. This was done by identifying and resolving over 300 defects, validating testing scripts, and making sure test cases aligned with client requirements. The project is anticipated to have a smoother launch with fewer post-release issues. This will likely lead to increased client satisfaction.

Second, as part of the Innovation Challenge, the team looked forward to deploying the project in larger-scale company applications. However, due to time and resource constraints in our internship, this was not possible. We believe if this project were expanded and provided the resources necessary for mass automation, it could result in significant cost savings for companies.

5. CONCLUSION

Reflecting on my internship at Deloitte, I learned that consulting firms increasingly value the integration of technical expertise within their teams. I initially questioned whether my skills would fit into a traditionally business-focused industry. This was proven not to be an issue, based on my experience. I was shown that companies like Deloitte prosper with diverse teams that bring together individuals with varied backgrounds to tackle a common goal. My technical skills were essential at Deloitte, directly contributing to

enhancing the healthcare application and helping the development of the AI platform.

The experience also showed me that consulting is no longer solely about business strategies but also about leveraging technology to tackle more modern and complex client needs. The industry's shift toward hiring technical talent reflects the growing need for a multidisciplinary approach to solving today's business problems, which proves that computer science graduates can thrive in consulting roles.

6. FUTURE WORK

In terms of the property claims verification tool, the next steps would involve scaling the project by increasing its data sources and refining the algorithm for an even greater accuracy score. With the right resources to complete these tasks, this solution could be adapted to other areas like fraud detection, which can drive further efficiency and cost savings in other business sectors.

When considering the healthcare application, another phase of testing the team should consider adding to its framework is stress testing. This makes sure that the system remains stable under peak traffic conditions and ultimately supports a smoother deployment. In addition, it also helps identify potential performance bottlenecks before the final application reaches users.

REFERENCES

Nissen, V. (Ed.). (2018). *Digital transformation of the consulting industry: Extending the traditional delivery model*. Springer.

Sarirete, A., Balfagih, Z., Brahimi, T., Lytras, M. D. and Visvizi, A. 2022. Artificial intelligence and machine learning research: Towards digital transformation at a global scale. *Journal of Ambient Intelligence and Humanized Computing*, 13, 6 (2022), 3319–3321. DOI: <https://doi.org/10.1007/s12652-021-03168-y>.