

## Case-Study: Induction and Introduction to Analytics – CRISP-DM

This is an in-class exercise. The solution for this exercise is not constrained to a single answer.

**The case study problem does not demand a solution pinpointing the algorithms used or data processing techniques that may be employed. A general approach on how to break down the given problem into the constituent phases of CRISP-DM is the desirable outcome.**

Case Study Number & Title	1. An AI-driven verification model to flag and address potential check fraud
Introduction	In order to battle millions of counterfeit checks, Cognizant Digital Business is using Artificial Intelligence to help a large global bank build a machine learning solution to reduce the incidence of check fraud. Machine Learning technology was designed to automatically compare various factors on scans of deposited checks to a growing database of checks previously identified as fraudulent, to flag potential counterfeits in near real time.
Learning Outcomes	Learning outcome: Convert a business problem into an analytical problem and the ability to break the process down using CRISP-DM
Background Information	The client uses optical character recognition (OCR) and deep learning technology to scan checks, process data and verify signatures. While many checks, such as for payroll, are easy to parse, handwritten checks remain frustratingly difficult to process. The model was trained to parse a historical database of previously scanned checks, including ones known as fraudulent. It analyzes images to confirm all necessary information is present and delivers a confidence score almost instantaneously regarding whether a check is good, is manifestly fraudulent, or needs further review
Scenario	Model demonstrated a 50% reduction in fraudulent transactions. Processing as many as 20 million checks a day, with end-to-end response times of less than 70 milliseconds and processing up to 1,200 checks per second. The model forecasts up to \$20 million in annual savings on fraud losses, while significantly reduces the operational cost of manual check validation
Problem Statement/ Business objectives	How would you break the following problem/scenario down with the help of CRISP-DM methodology: “Identify, verify and flag fraudulent checks from the non-fraudulent ones”

Data, Information for case analysis	Use the steps in the CRISP-DM methodology.
Questions	Distinction of process based on all the steps in CRISP-DM.
Solution	
Deliverables for Solution and Rubric	Non-graded assessment
Key Takeaways/Results	The ability to dissolve a business scenario into the CRISP-DM methodology.