Capital One 2: Big Data Use Case, Project Recap
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Overview
Capital One’s motto is to “Change Banking for Good”. One way to do this is to deeply understand customer needs by creating a model that actively learns where customers are at in their life journeys. To this end, this project strives to create such a product: a safe, easy, efficient piece of software that proactively understands customer needs while respecting their privacy. This will be accomplished by using public social media information to supplement private Capital One data, and then using the data to predict the needs of the customer.

Objectives
While external patents have been granted for disambiguation of customers in internet search queries (the first step in our product), this technology has never been used to predict a customer’s needs. Because of this, successful implementation of this project will make Capital One a leader in the field of customer service.

Approach
Our solution is a streamlined, easy-to-use application that delivers good insight on each customer’s journey. Furthermore, this solution is reliable, fast, and cost-efficient in terms of both computational resources and further developer time. However, our solution has some major limitations. First, it does not provide information on customers without specific social media (LinkedIn or Facebook). Second, as we do not have large training datasets, the classification models may not be extremely accurate. However, even though the models may not currently be accurate, our goal is that the software is designed in such a way that it will be simple to improve the accuracy of the models when more training data is available.

Outcomes
These challenges were successfully met. As can be seen in the pictures below, our solution successfully created a way to identify stages of customer journeys.
Figure 1. GUI Display of the list of (test) customers.

Figure 2. GUI Display of the events detected (changes in customer journey) detected.