Capstone Proposal – Predicting Bank Churn

Project Name	Bank Customer Churn
Business Understanding	At what point do customers fail to become repeat customers? How can we use this information to decrease customer churn?
Client/Project Motivation	A bank in France, Germany & Spain. The motivation behind the project is to help the bank predict when a customer would churn and take preventative action to reduce the chances of it happening.
Market /Industry	Banking
State of the Art	Churn Prediction Modeling, Random Forests
Success Metrics (Evaluation)	Reduced number of churn and increase in customer retention would be our success metric. If we can reduce churn by at least 10%, I would consider that to be successful.
Scalability	Will be able to identify the type of customer that is likely to churn versus not.

Modeling Requirements	
Data Type	CSV
Data Source	Kaggle: Bank Customer Churn Dataset (kaggle.com)
Data Preparation Steps	Cleaning rows with empty data, or invalid data
Data Challenges	The data is very clean and easy to use. We don't anticipate any challenges
Modeling Techniques	Feature Engineering, Predictive Analysis
Target Variable	Churn
Regression or Classification problem	Classification
Tools/Methodologies	Machine Learning Classifiers

Project Timeline

Here is a Gantt chart with a projection of our potential schedule, as well as what we have accomplished thus far.

Week Number	Status Update	9	10	11	12	13	14	15	16	17	18	19	20
Milestones				*Mentor Status Update*	*Proposal Due*			*Mentor Status Update*	*Meet with VT Advisor*	*Mentor Status Update*	*Capstone Work Day*	*Practice Pres.*	*Practice Pres.*
Formulate business problem	Complete												
Find data set on bank churn	Complete												
Perform literature review	On Track												
Solution hypothesis	N/A												
Implement solution	N/A												
Preliminary results	N/A												
Final Results	N/A												
Evaluate and Benchmark	N/A												
Presentation Prep	N/A												

Indicate:
Complete
On Track
At Risk
Off Track
N/A

Status Update

As of October 6th, here is what the team has accomplished and is looking forward to from this point on.

What we did in last two weeks

Brainstorming Phase
Team produced potential ideas

Explored Data Sets
Scanned datasets related to ideas

Connected with Advisor
Met with Stephen from VT for feedback

Narrowed Down Ideas
Down to two ideas from our list

What we will accomplish in next two weeks

Data Set Selection
Finalize which data set(s) to choose relevant to business statement

Proposal
Finish working on the proposal

Performing Literature Review
Research ML and dataset cleaning techniques

Roles and Responsibilities
Kimberly Kiepek: Generating business ideas
Saniya Shahid: Coordinator, Note-taker
Rhea Vanjani: Generating business ideas
Abby Williams: Data Analysis & Model Creation
Zach Zwerling: Tech specifications, searching for project ideas