**DSA/ISE-5103**

**Project Report (Draft)**

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**Detecting fraud on credit card transactions**

The University of Oklahoma

# Executive Summary (1 page)

**–** Concise problem statement

**–** List of major concerns/assumptions (if any)

**–** Summary of findings

**–** Recommendations

# Problem description and background (including related literature for problem, solution techniques, etc.)

The use of credit and debit cards has increased signiﬁcantly in the last years, unfortunately so has fraud. Because of that, billions of Euros are lost every year. According to the European Central Bank (European Central Bank, 2014), during 2012 the total level of fraud reached 1.33 billion Euros in the Single Euro Payments Area, which represents an increase of 14.8% compared with 2011. Moreover, payments across non traditional channels (mobile, internet, etc.) accounted for 60% of the fraud, whereas it was 46% in 2008. This opens new challenges as new fraud patterns emerge, and current fraud detection systems are less successful in preventing these frauds.

# Exploratory data analysis – the highlights; not the kitchen sink

# Analysis plan

**–** Explanation of modeling choice – Why choose this technique? Strengths, weaknesses?

**–** Feature selection, engineering, missing value, outlier plan

**–** Validation plan (including how do your findings compare with others?)

# Results and validation of analysis

# Conclusion

# References

# Appendix

**–** Data visualizations, tables, etc. which support the work, but are not of primary importance

**–** List of data transformations, missing value imputations, outlier treatment, etc.

**–** List of any important assumptions not otherwise included

**–** Important code excerpts or algorithms used / developed if any.