

# CAPABILITY STATEMENT

TYLOR DATA SERVICES, LLC, (TDS) – SBA 8(a) certified and Economically Disadvantaged Woman Owned Small Business (EDWOSB) founded in 2010 – brings a proven track record of results-driven data science consulting, big data analytics and rapid custom software development to address business challenges of clients including government agencies, non-profit organizations and corporations based in MD/VA/DC.

## Core Capabilities

### DATA SCIENCE CONSULTING: BIG DATA ANALYTICS AND APPLIED ALGORITHMS

TDS evaluates and develops an understanding of client data needs, while applying experienced analytical and expert data science techniques to solve complex problems. TDS collaborates with customer subject matter experts to solve subject domain challenges and to translate perspective and questions into actionable data queries and models which allow for meaningful and focused data exploration. TDS analysis seeks to provide answers to directed questions, accurately mine patterns of risk and provide assistance such as identifying data quality issues and experimenting with latest technologies and open source algorithms. TDS applies intelligent statistical and machine-learning techniques as well as cutting edge methods, including graph analytics, deep learning, unsupervised learning, Spark parallelization and relevant big data techniques.

### BUSINESS INTELLIGENCE (BI) and AD-HOC REPORTING

Rapid development of BI and ad-hoc reporting encourages effective communication with clients about the impact of client data and promotes meaningful, directed analysis. TDS reporting improves understanding and frames the problem, enabling real time validation of data extract, transform and load (ETL) processes, and establishes leave-behind tested solutions.

### DATA PROCESSES AND SYSTEM AUTOMATION FOR ANALYTICS

TDS delivers repeatable automation of ETL steps, for example heavily leveraging Spark, which significantly improves performance and data quality. Custom-code is written to prepare unstructured and semi-structured data for in-depth analysis.

## Select Past Performance

### TRIBE ANALYSIS AND EVENT TRIAGE POC *Client: FINRA*

Architect and prototype cloud-based analytical tool to help analysts identify tribes of reps, highlight migration through firms and identify potential sales practice misconduct and patterns of problem behavior. Proof of concept researched and developed initially using R, Oracle SQL and Qlikview and cloud implementation built using Apache Spark (written in Scala). Techniques of semantic and graph analytics include Latent Semantic Analysis (LSA), graph modeling and graph clustering algorithms such as label propagation, Louvain, and personalized page rank.

### INTERNATIONAL TAX COMPLIANCE *Client: IRS, Prime: Eastport Analytics, Inc*

Work closely with client subject matter experts to develop a risk-based classification tool. Improve workload prioritization processes and selection accuracy. Integrate domain rules with data sources to provide a comprehensive profile within an interactive BI tool. Build a system to automate ETL processes which pull pertinent data from central data warehouse. Efforts yield significant improvements in selection accuracy, performance, and repeatability which led to additional tasks from client.

### VARIABLE ANNUITY EXAMINATION REPORTING *Client: FINRA*

Develop the Variable Annuity examination BI reporting platform to look for unsuitable conduct at member firms. Manage and provide thought leadership in data processing methodology. Cultivate

insights from ad-hoc data sources and rapidly prototype solutions and generate requirements for production.

## Owner Education / Background

### DEBORAH TYLOR, OWNER

More than 20-years of professional experience in the fields of development and data analysis, software architecture, project management, technical leadership, including training for government and commercial industries. Deborah also provides innovative software solutions to solve complex business and analytical requirements, uses excellent problem solving and communication skills to translate analyst needs into technical solutions.

Deborah Tylor holds the following degrees:

- B.A. in Physics and a B.E. in Environmental Engineering from Dartmouth College
- M.S. in Physical Oceanography from University of Hawaii, SOEST (results from research were published in the *Journal of Physical Oceanography*).

## Client Recognition

TDS has enjoyed recognition for excellence from many pleased clients – for example:

*"[Deborah Tylor's] incredible technical and analytic capabilities have empowered the federal government to tackle data challenges that were previously thought to be insurmountable."*  
– Director of Accounts at Eastport Analytics, Inc

*Deborah Tylor is the department's "Chief Data Scientist"* – Senior Director at FINRA

*"Deborah came up to speed extremely quickly on the regulatory background required to develop meaningful analytics and engage successfully with the business"* – Senior Business Analyst at FINRA

## Method and Industry Perspective

Data scientists with strong programming skills who can develop effective data models and communicate the results in a meaningful way are in high demand, as it is increasingly difficult to find actionable insight from the growing deluge of big data. Traditional IT shops often struggle to find resources who can face technical challenges but also delve into subject domain and communicate with business partners.

TDS maintains frequent communication and touch points with end-user clients. Rapid prototyping and agile methodologies during development help to engage effectively with end-user clients, generate excitement and project momentum, and tune expectations and results to client data.

## NAICS Codes and Company Data

518210 Data Processing, Hosting and Related Services	SBA Certified 8(a) Participant (Exit Date: 04/23)
541511 Custom Computer Programming Services	Woman Owned Small Business (EDWOSB)
541715 Research and Development in the Physical, Engineering, and Life Sciences (except Biotech)	
DUNS 055293316	CAGE 6Q0H3