

Data-Driven Analysis of Alumni Success: Analyzing Employment Outcomes in the Data Analytics Engineering Program

James Baldo, Lingyun Dai

November 13, 2024

Abstract

The effectiveness of Data Analytics Engineering (DAEN) program at George Mason University is critical as industry demand for skilled professionals continues to grow. This study presents analysis of the Data Analytics Engineering (DAEN) program at George Mason University's College of Computing and Engineering, examining post-graduation outcomes and program effectiveness through detailed alumni feedback. The research methodology employs a mixed-methods approach, combining qualitative interviews with quantitative analysis to evaluate various success metrics including employment trajectories, technical skill utilization, and program satisfaction. Data was collected through structured interviews with DAEN program alumni, focusing on key indicators such as job titles, career progression, technology stack adoption, and program-specific skill acquisition. Interview transcripts were processed using AWS transcription services and analyzed using natural language processing toolkit to extract meaningful patterns and insights. The processed data was then visualized using Tableau to identify trends in employment outcomes, skill utilization, and areas for program enhancement. Results from this analysis provide actionable insights for curriculum development and program improvements, while also offering valuable metrics for assessing the program's effectiveness in preparing graduates for industry demands. This research contributes to the broader understanding of Data Analytics Engineering (DAEN) program effectiveness.

Keywords: Data Analytics Engineering (DAEN), Alumni, Employment, Program, Data, Analysis

Contents

1	Introduction	3
1.1	Purpose	3
1.2	Readership	3
1.3	Doc Structure	3
2	Problem Statement	3
2.1	Alumni Feedback	3
2.2	Focus	3
2.3	Problem	3
3	Data	3
3.1	Collection Process	3
3.2	Questions	4
3.3	Data Process	4
3.4	Data Quality	4
4	Analysis	4
5	Visualization	4
6	Findings	4
7	Next Steps and Lessons Learned	4
7.1	Next Steps	4
7.2	Lessons Learned	4
A	Background	4
B	References	4

1 Introduction

1.1 Purpose

The primary objective of this research is to evaluate the Data Analytics Engineering (DAEN) program's effectiveness through comprehensive alumni interviews. Through structured feedback obtained from recent program graduates, this study conducts a detailed analysis of employment outcomes and program performance metrics. These insights are instrumental in enabling the DAEN department to implement strategic enhancements to the program, encompassing curriculum development, technology integration, and key focus areas for student development and satisfactory.

1.2 Readership

The report is intended for the DAEN program academic and administrative personnel including leaderships, key stakeholders, and development team. The findings and recommendations presented in this report will provide valuable insights for improving program effectiveness, curriculum design, and student outcomes.

1.3 Doc Structure

This report is organized into seven main sections. The Introduction establishes the research context and objectives. The Problem Statement formulates the core research questions and scope. The Data section outlines the interview-based data collection methodology and questionnaire design. The Analysis section details the data processing pipeline and techniques employed. The Visualization section presents the derived data visualizations and their interpretations. The Findings section synthesizes key insights obtained through visual analytics. Finally, the Next Steps and Lessons Learned section proposes future research directions and methodological improvements.

2 Problem Statement

2.1 Alumni Feedback

[Detail the feedback received from alumni]

2.2 Focus

[Describe the main focus areas of the project]

2.3 Problem

[Clearly state the problem being addressed]

3 Data

3.1 Collection Process

[Describe how data was collected through interviews]

3.2 Questions

[List and explain the interview questions]

3.3 Data Process

[Explain how the data was processed and summarized]

3.4 Data Quality

[Discuss the quality and reliability of the data]

4 Analysis

[Present your detailed analysis]

5 Visualization

Figure 1: Your caption here

6 Findings

[Present your key findings]

7 Next Steps and Lessons Learned

7.1 Next Steps

[Outline future recommendations]

7.2 Lessons Learned

[Discuss key takeaways and learning points]

A Background

[Additional background information]

B References

References

[1] Author, A. (Year). Title. Journal/Publisher.