A-Grade Dissertation Analysis

Patterns from 14 Glasgow Computing Science Dissertations

Dissertations Analysed

Name	Type	Pages	Topic
FATA-joint-1	Joint	71	Esoteric programming languages
FATA-joint-2	Joint	36	Graph algorithms
FATA-single-1	Single	53	Cake-cutting algorithms
GIST-single-1	Single	46	Adaptive music for pedestrians
GIST-single-2	Single	81	Public speaking coaching
GLASS-single-1	Single	40	GPU programming
GLASS-single-2	Single	48	ML energy efficiency
IDA-single-1	Single	65	Data visualization
fame_2019_1	Single	60	Quantum computing simulation
fame_2019_2	Single	59	Proxemic interaction
fame_2019_3	Single	142	Circuit simulator
fame_2019_4	Single	67	Social media disaster response
fame_2019_5	Single	51	Acoustic surface detection

Universal Chapter Structure

EVERY A-grade dissertation follows this pattern:

Chapter 1: Introduction

Always includes:

- **Motivation/Motivations** — Why this matters
- **Aims/Goals** — What the project will achieve

Often includes:

- Summary/Outline of chapters
- Problem statement

Page count: 2-4 pages

Chapter 2: Background

Always includes:

- Domain-specific concepts
- Related/Existing work
- Technologies/Methods used

Often includes:

- Summary at end of chapter

Page count: 5-12 pages

Chapter 3: Analysis/Requirements

Usually includes:

- User scenarios/personas
- User stories
- Functional requirements
- Non-functional requirements

Sometimes called: Requirements Gathering, Problem Specification

Page count: 3-6 pages

Chapter 4: Design

Covers:

- System architecture
- Design decisions
- Data structures
- Algorithms chosen

Page count: 4-8 pages

Chapter 5: Implementation

Covers:

- Technical details
- Tools and libraries
- Code structure
- Challenges faced

Page count: 4-8 pages

Chapter 6: Evaluation

Covers:

- Experimental setup
- Results
- Metrics
- Comparison with baselines

Page count: 5-10 pages

Chapter 7: Discussion (sometimes combined with Evaluation)

Covers:

- Interpretation of results
- Comparison with literature
- Limitations
- Future work

Page count: 3-6 pages

Chapter 8: Conclusion

Covers:

- Summary of achievements
- Key contributions
- Final remarks

Page count: 1-2 pages

Key Observations

1. Introduction Pattern

ALL 14 dissertations have Motivation in the Introduction:

- "Motivation" or "Motivations" as first subsection
- Immediately establishes WHY this matters
- Often includes real-world impact

2. Background Depth

Successful backgrounds include:

- Clear definitions of key terms
- Survey of existing products/approaches
- Gap identification (what's missing)
- Technical foundations needed

3. Requirements Are Explicit

Most include explicit requirements:

- Functional: "The system shall..."
- Non-functional: Performance, usability, etc.
- Derived from user scenarios

4. Evaluation is Substantial

- Multiple evaluation methods
- Quantitative metrics
- User studies where applicable
- Comparison with baselines

5. Critical Discussion

High-scoring dissertations:

- Don't just report results
- Critically analyse what worked/didn't
- Acknowledge limitations honestly
- Suggest concrete future work

Page Count Guidelines

Type	Range	Sweet Spot
Joint Honours	36-71	~45 pages
Single Honours	40-142	~55 pages

For Nile (Single Honours, 40 page limit):
Aim for ~38-40 pages of content.

Structure Comparison: Research vs Implementation

Implementation-Heavy Projects (most examples)

1. Introduction
2. Background
3. Analysis/Requirements
4. Design
5. Implementation
6. Evaluation
7. Conclusion

Research-Heavy Projects (like Nile's)

1. Introduction
2. Background
3. **Methodology** (replaces Analysis/Requirements + Design)
4. **Implementation** (shorter, focused on pipeline)
5. **Results** (replaces Evaluation)
6. **Discussion** (more substantial)
7. Conclusion

What Makes an A-Grade Dissertation

Must Have:

- [ ] Clear motivation establishing importance
- [ ] Well-defined aims/research questions
- [ ] Comprehensive background with gap identification
- [ ] Rigorous methodology
- [ ] Substantial evaluation
- [ ] Critical discussion of results

- [ ] Honest limitations section
- [ ] Professional formatting

Differentiators:

- Depth of analysis (not just surface-level)
- Quality of writing (clear, precise, academic)
- Originality of contribution
- Critical self-reflection
- Connection to broader literature

Recommended Structure for Nile's Dissertation

Based on analysis of A-grade examples:

Chapter 1: Introduction (~3 pages)

1.1 Motivation
1.2 Aims
1.3 Outline

Chapter 2: Background (~8 pages)

2.1 Depression and Speech Production
2.2 Acoustic Features
2.3 Machine Learning Approaches
2.4 Related Work
2.5 Summary

Chapter 3: Methodology (~5 pages)

3.1 Research Approach
3.2 Data Selection (ANDROIDS corpus)
3.3 Feature Extraction
3.4 Classification Methods
3.5 Feature Importance Analysis

Chapter 4: Implementation (~4 pages)

4.1 Development Environment
4.2 Data Processing Pipeline
4.3 Model Training
4.4 Analysis Tools

Chapter 5: Results (~6 pages)

5.1 Classification Performance
5.2 Feature Importance Rankings
5.3 Read vs Spontaneous Comparison
5.4 Summary

Chapter 6: Discussion (~5 pages)

6.1 Interpretation of Findings
6.2 Comparison with Literature
6.3 Clinical Implications
6.4 Limitations
6.5 Future Work

Chapter 7: Conclusion (~2 pages)

7.1 Summary of Contributions
7.2 Final Remarks

Total: ~33 pages (leaves room for figures/tables to reach 40)

Analysis completed: February 2, 2026
Based on 14 A-grade Glasgow CS dissertations