Here's the **fully translated English version** of your PPT slides, optimized for academic presentation while maintaining technical precision and innovation highlights:

Cover Slide

Title: News Sentiment Analysis System Based on Ensemble Learning and Dynamic Rule Mining
Subtitle: An Innovative Case Study on 240K HuffPost News Articles
Key Highlights:

- Pioneered "Domain-Adaptive Sentiment Weighting Algorithm"
- Proposed "Entity-Sentiment-Category" 3D Association Rules
  Name/ID: [Your Information]
  Course: COMP7630 Web Intelligence

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1. Research Innovation (Key Scoring Slide)

Technical Breakthroughs:

- 🚀 **Dynamic Domain Adaptation** (Innovation #1):
  - Custom sentiment lexicons for politics/tech domains (e.g., "reform"+0.05 vs "scandal"-0.05)
  - 12.7% accuracy improvement over baseline (*emphasize this is your original work*)
- 🔍 **Entity-Level Sentiment Association** (Innovation #2):
  - Discovered strong rules: "Donald Trump→Negative (83.1% confidence)" vs "TRAVEL→Positive"

Theoretical Contribution:

- First to integrate **weighted ensemble strategy** (VADER+TextBlob+DistilBERT) in news analysis

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2. Methodology Framework (Technical Depth Slide)

Workflow Diagram:

1. Data Input → 2. Dynamic Preprocessing → 3. Triple-Model Parallel Analysis → 4. Domain Calibration → 5. Rule Mining
   Core Techniques:

- **Sentiment Analysis**:
  - Ensemble weighting formula (*show equation for bonus points*):
    `Final_Score = 0.4*VADER + 0.3*TextBlob + 0.3*BERT`
- **Rule Mining**:
  - Enhanced Apriori: Dynamic support thresholding (category-aware)

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3. Sentiment Analysis Implementation (With Innovation Comparison)

Benchmark Test (*Visualize as table*):

Method	Accuracy	Speed	Innovative

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VADER (Baseline)	68%	Fast	❌
BERT (Single)	72%	Slow	❌
Our Ensemble+Adaptive	**84.7%**	Medium	☑

Code Snippet (*Highlight 1-2 lines*):

```
# Domain adaptation (Politics example)
adjusted_score = base_score + sum(boost_words)*0.05 - sum(penalty_words)*0.05
```

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4. Association Rule Innovations

Top Rules (*Dual visualization: Table + Heatmap*):

Rule	Support	Confidence	Lift
{entity=Trump, category=POLITICS} → negative	0.018	0.831	13.79
{category=TRAVEL} → positive	0.021	0.710	8.92

Key Insight:

- Discovered **cross-dimensional patterns** (Entity+Category→Sentiment)
- Proposed "Negative Entity Alert System" (*next slide*)

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5. Application: Real-Time Sentiment Alert System

Architecture:

1. Live Data → 2. Sentiment Scoring → 3. Rule Matching → 4. Alert Trigger
   Demo Case:

- When detecting {entity=Trump, score<-0.5}:
  - Auto-flag as high-risk news
  - Push historically similar negative reports

Advantage:

- Detects emerging crises **30 mins faster** than traditional methods

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6. Validation & Evaluation (Scoring Critical Slide)

Quantitative Results:

- Sentiment F1=0.87 (+15% over baseline)
- Rule mining speed ↑40% (optimized Apriori)

Qualitative Innovations:

- First to achieve:
    - Domain-adaptive news sentiment analysis
    - Entity-driven dynamic rule generation

Conclusion Slide (Innovation Summary)

Theoretical Impact:

- Proposed "Domain-Sensitive Sentiment Framework"
- Built news sentiment knowledge graph

Practical Value:

- Extendable to social media monitoring, ad targeting

Future Work:

- Temporal sentiment trend analysis

Full-Score Tips

1. **Label Innovations**: Use ☑ icons to mark novelty per grading rubric
2. **Controlled Experiments**: Always include quant comparisons vs baselines
3. **Personal Contribution**: Color-code your independent work
4. **Citations**: List references in notes section (APA format)

Need:

- Editable PPT template?
- Animation suggestions? (*Specify tech-heavy or storytelling preference*)

Let me know if you'd like to adjust terminology for specific audiences (e.g., simplify for non-technical reviewers).