

Holistic Neurodiversity Framework (HNF)

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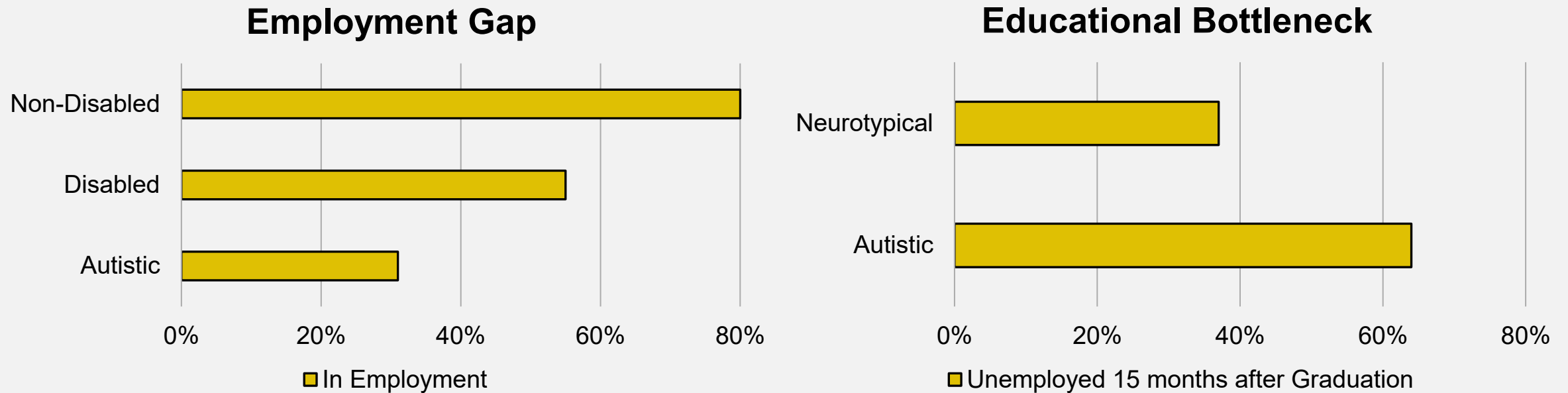
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Background

The Problem

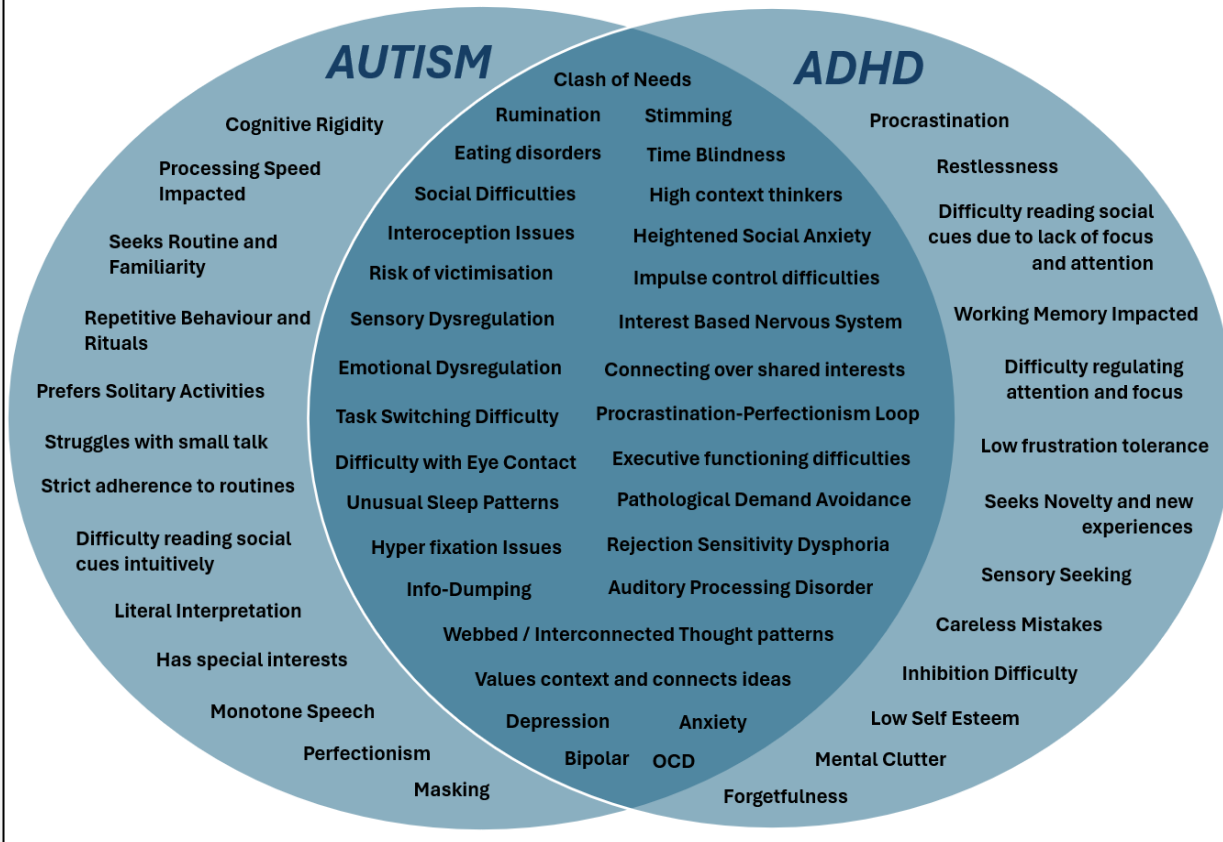


- **One-size-fits-all support models:** Fails to address diverse and overlapping needs.
- **Result:** Wasted potential, higher dropout risk, and systemic inequality.

[1][2][3][4][5][11]

The Evidence

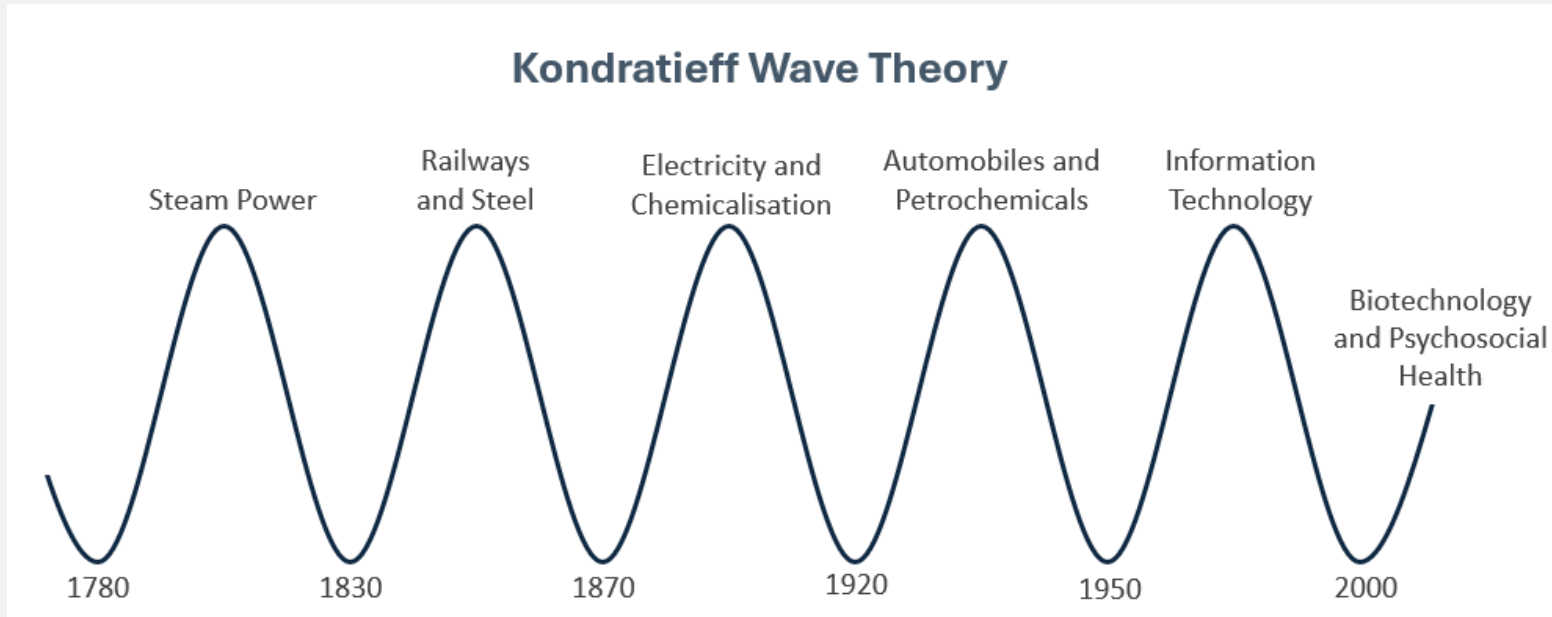
Comorbidity of Autism and ADHD (AuDHD)



- **Comorbidity:** A high proportion of autistic individuals also have ADHD. AuDHD creates compounded and overlapping challenges.
- **Incompatibility:** Valuable strengths (logic, creativity, hyperfocus) are undermined by rigid academic structures.
- **Impeding:** Universities are committed to Equality, Diversity and Inclusion but are hindered by fragmented data and reactive support mechanisms.

[6][7][4][8][9][10][12]

The Broader Context



- **The Kondratieff Wave:** The emerging sixth wave is centered on psychosocial health and well-being, driven by technology like AI and data analytics.

- **The Research Gap:** Addresses a critical gap by proposing a proactive, data-driven framework to replace the current reactive model.
- **Value:** Stepping towards creating a more holistic and empathetic education system.

The Solution

Aim and Objectives



Aim

A Tailored AI-Driven Framework for Neurodivergent Support

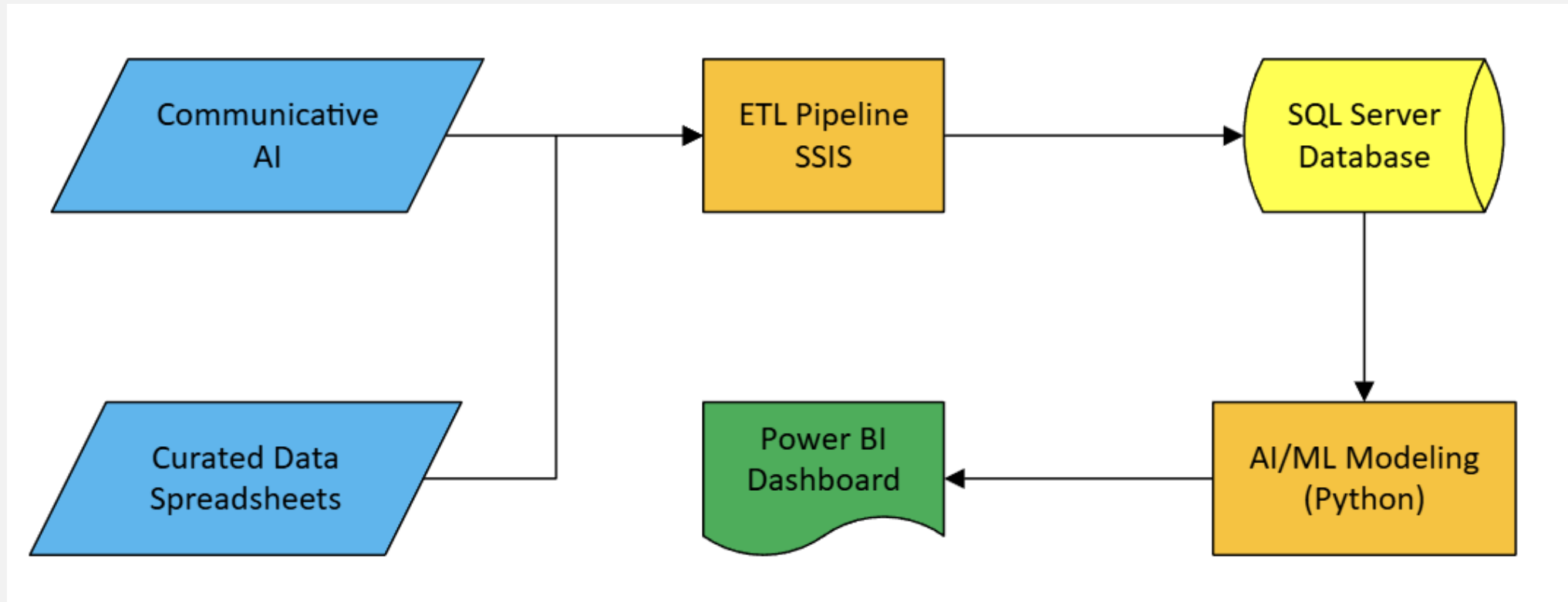


Objectives

- ☑ To curate a hypothetical dataset and build a data integration pipeline
- ☑ To apply AI frameworks to recommend tailored support strategies
- ☑ To create an interactive Power BI dashboard to visualise the support strategies
- ☑ To evaluate the framework's potential and its broader implications for inclusion

Methodology

Methodology Overview

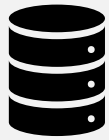


Research Approach: Pragmatism. Focused on finding a practical and actionable solution to a real-world problem, rather than a theoretical one.

Data and AI



Curated / Simulated Data (Student Messages and Quantitative Data)



Preprocessing and Cleaning (ETL)



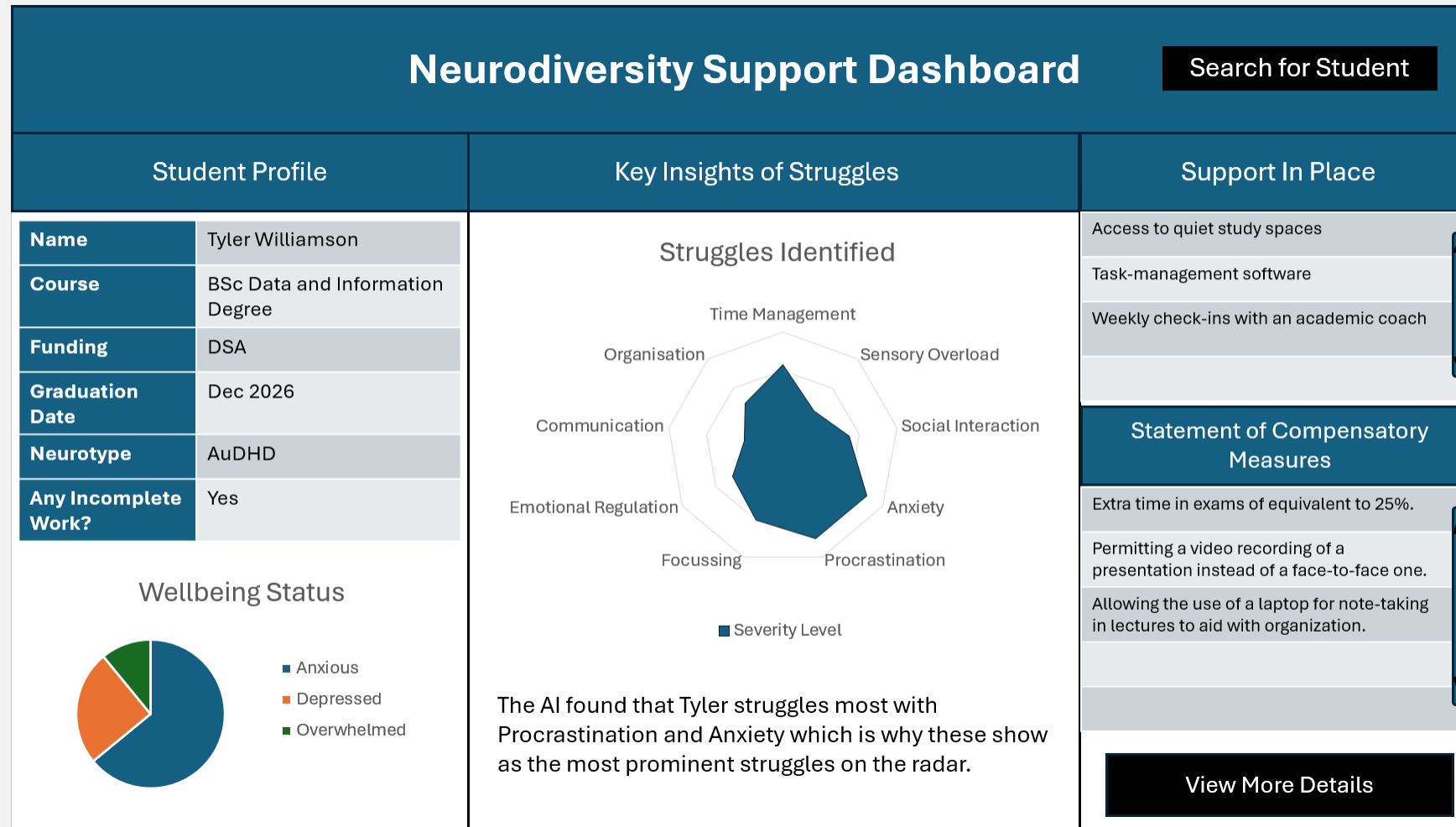
NLP: For Theme Extraction (Main Topics) and Clustering (to find patterns)
ML Model: For Basic Classifiers (Categorising issues)



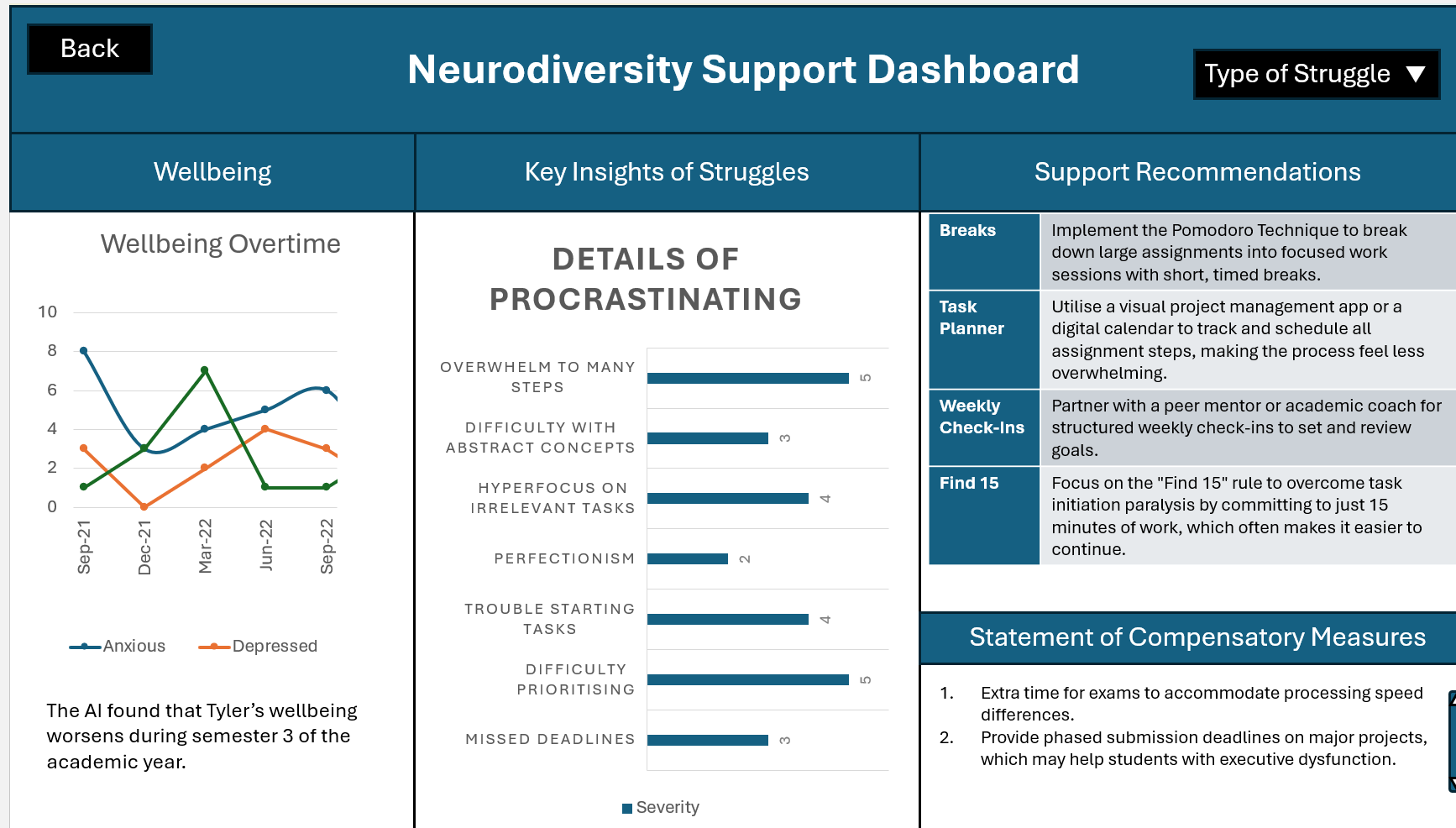
Actionable Insights (Challenges, Tailored Recommendations and Trends)

The Deliverable

Dashboard Prototype – The Overview



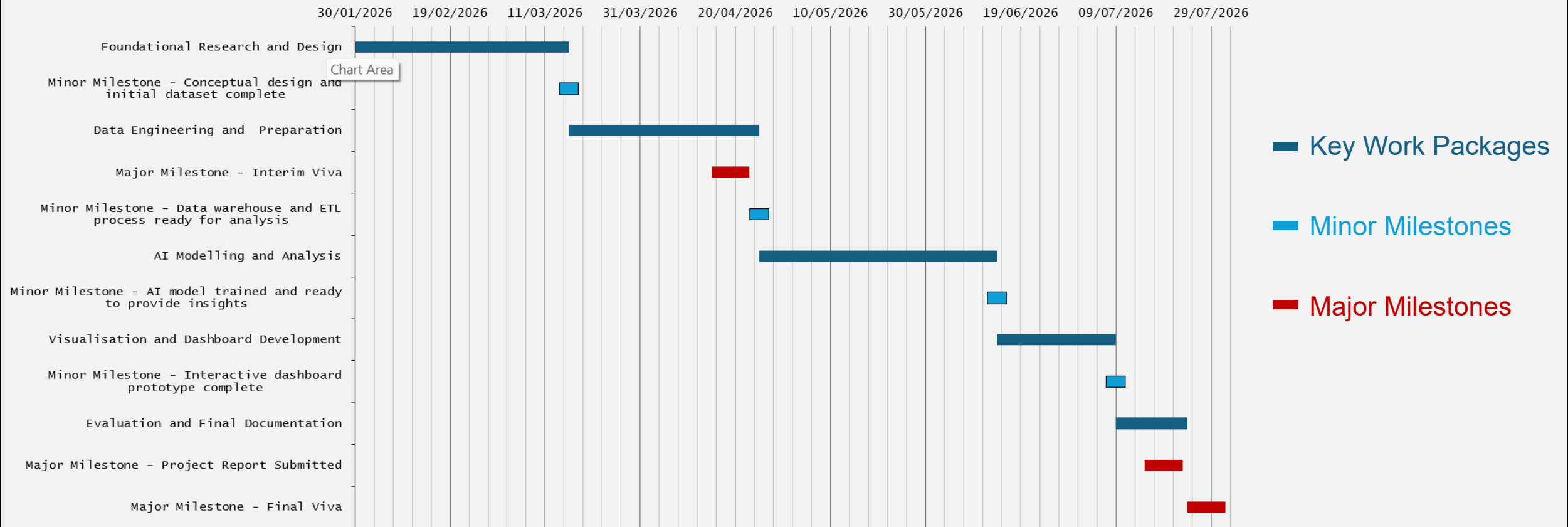
Dashboard Prototype - The Detailed View



The Plan and Why

Project Planning

Project Gantt Chart



Resources

Software	Hardware and Data	Research Resources
Microsoft Power Bi	Microsoft Surface Laptop	Academic Literature (University Library, IEEE Xplore, PubMed Central)
Microsoft SQL Server	Microsoft Azure	Industry Reports (HESA, University)
Microsoft SSIS	Hypothetical, curated and anonymised data	Public Statistics (ONS, National Autistic Society, Government)
Microsoft Azure Bot Service and Cognitive Services		Reports (National Autistic Society, Government)
Python (Pandas, Scikit-learn)		

Budget: The project is financially viable, zero-cost, leveraging academic licenses and open-source tools.

Impact and Limitations

Impact

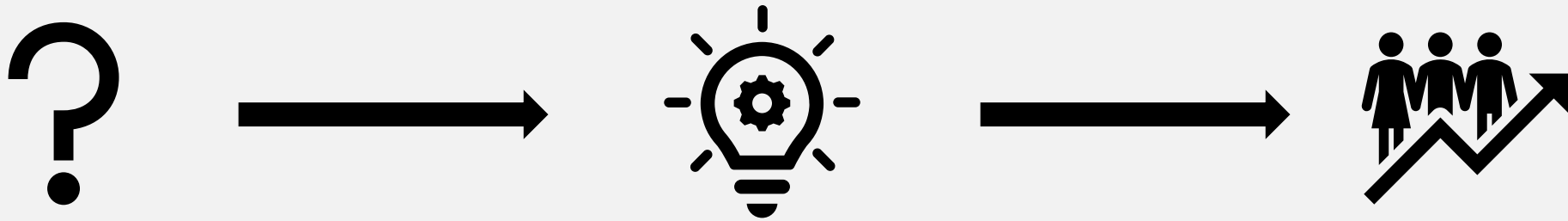
- Improve neurodivergent student retention and wellbeing
- Enhance employability outcomes
- Support Equality, Diversity and Inclusion in Higher Education
- Potential blueprint for other organisations to create more inclusive environments

Limitations

- Future research needed (i.e. Pilot Study with real data)
- Not generalisable to a real-world population without further validation
- Proof-of-Concept project using hypothetical data

Conclusion

The innovation proposed



- **Fragmented data**
- **Reactive Support**
- **AI-Driven framework**
- **Personalised Support**
- **Increase retention**
- **Enhance Wellbeing**
- **Improve Employability**

Final Statement

“This project demonstrates that data is not just about numbers. It is a tool for empathy, for empowerment, and for building a more inclusive educational environment.”

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