

Measuring the Societal Impact of UP Research

What is our Solution?

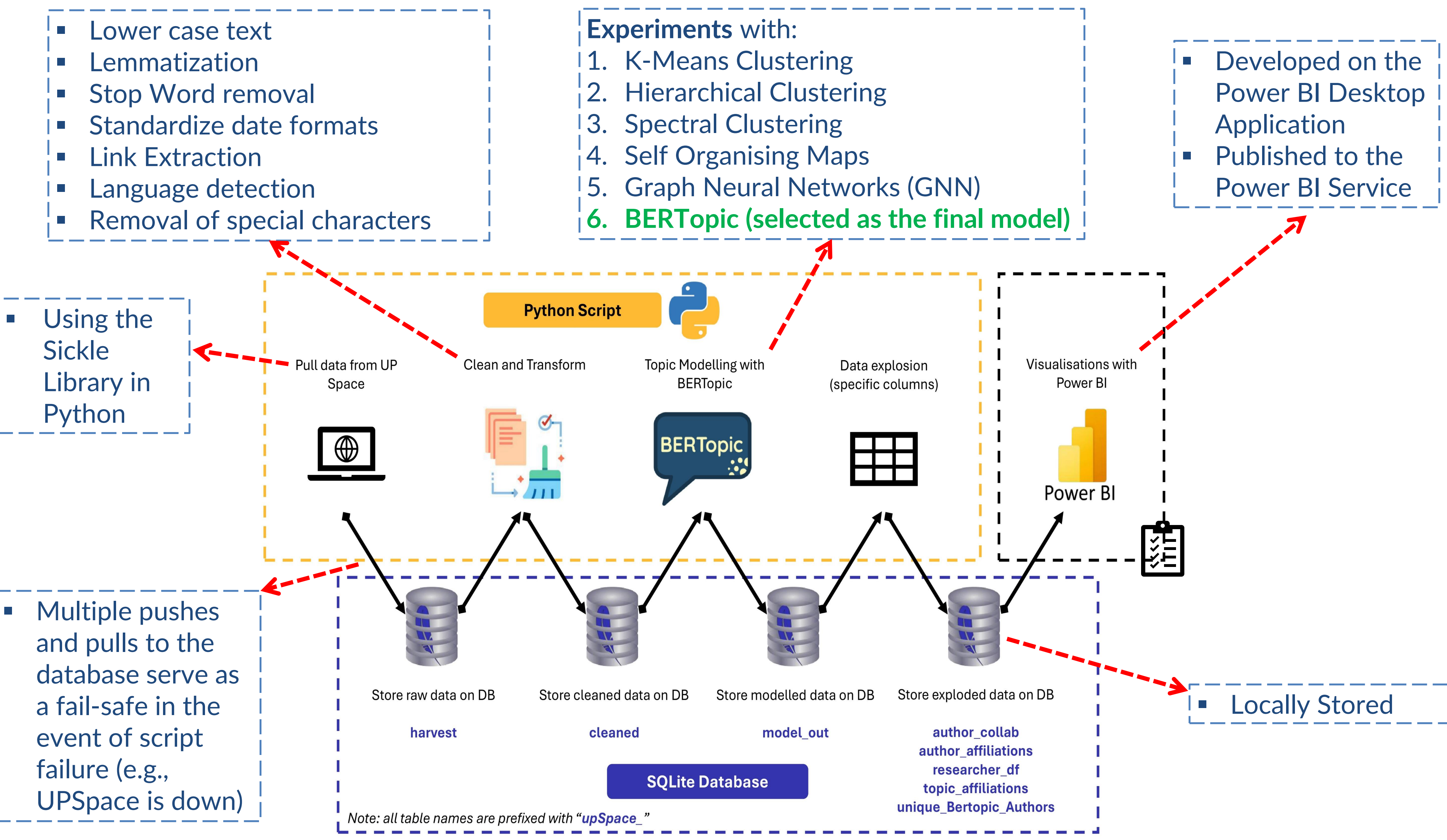
What is the Problem?

- UPSpace collects and distributes research performed by the UP community.
- Assessing and quantifying this research is currently difficult, restricting trend identification and collaboration.
- Leading to inefficiencies and challenges in evaluating impact and facilitating collaboration.

What is our Goal?

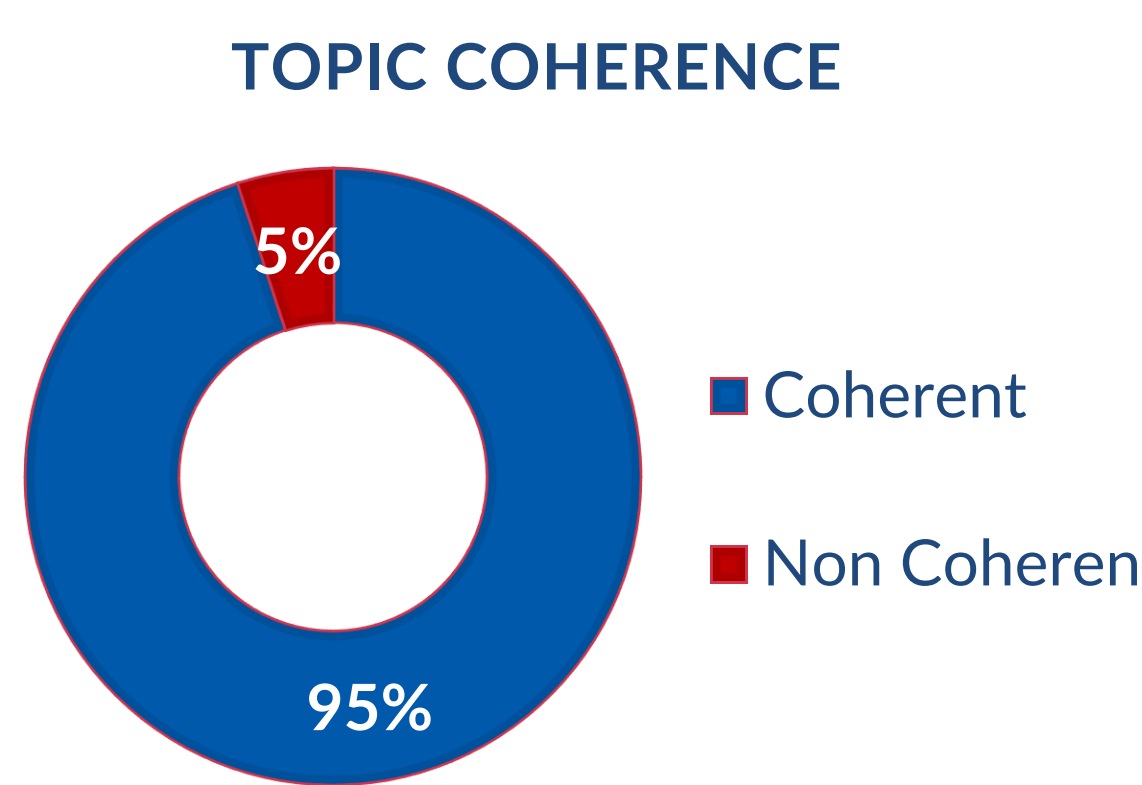
- Develop a user-friendly tool to harvest and visualize UPSpace research, enabling holistic research assessment, trend identification, and future research planning, including collaborations.

What is our Approach?



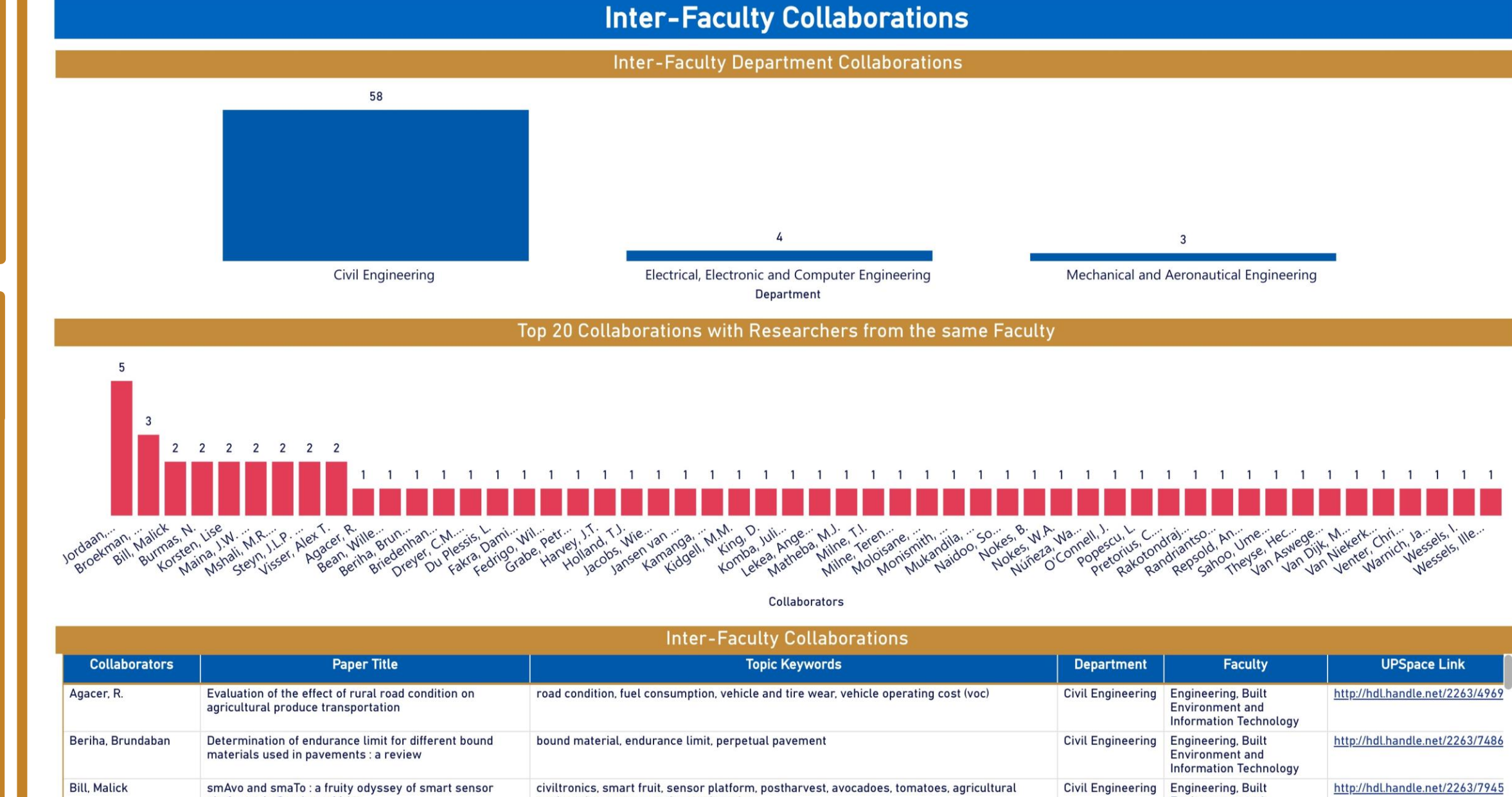
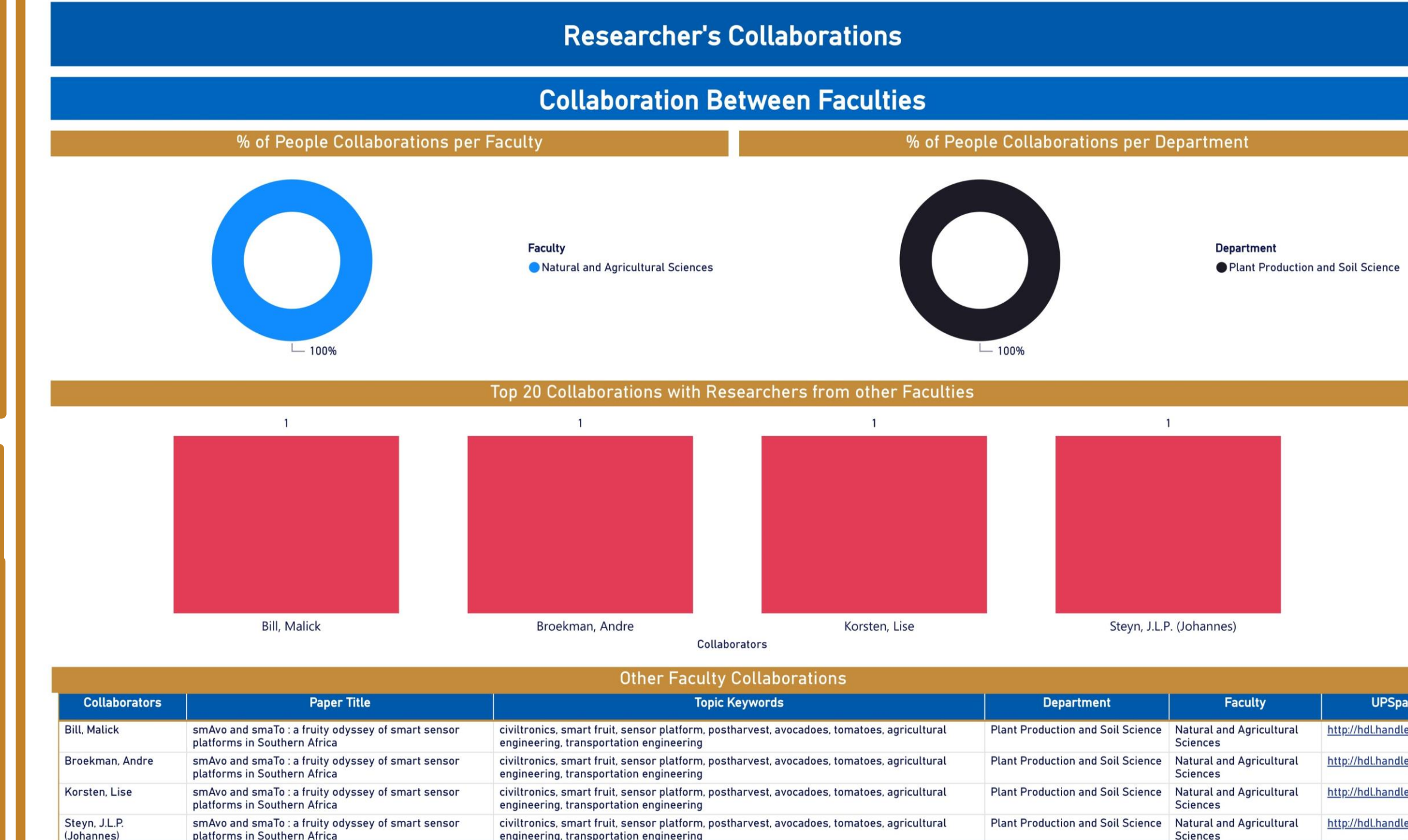
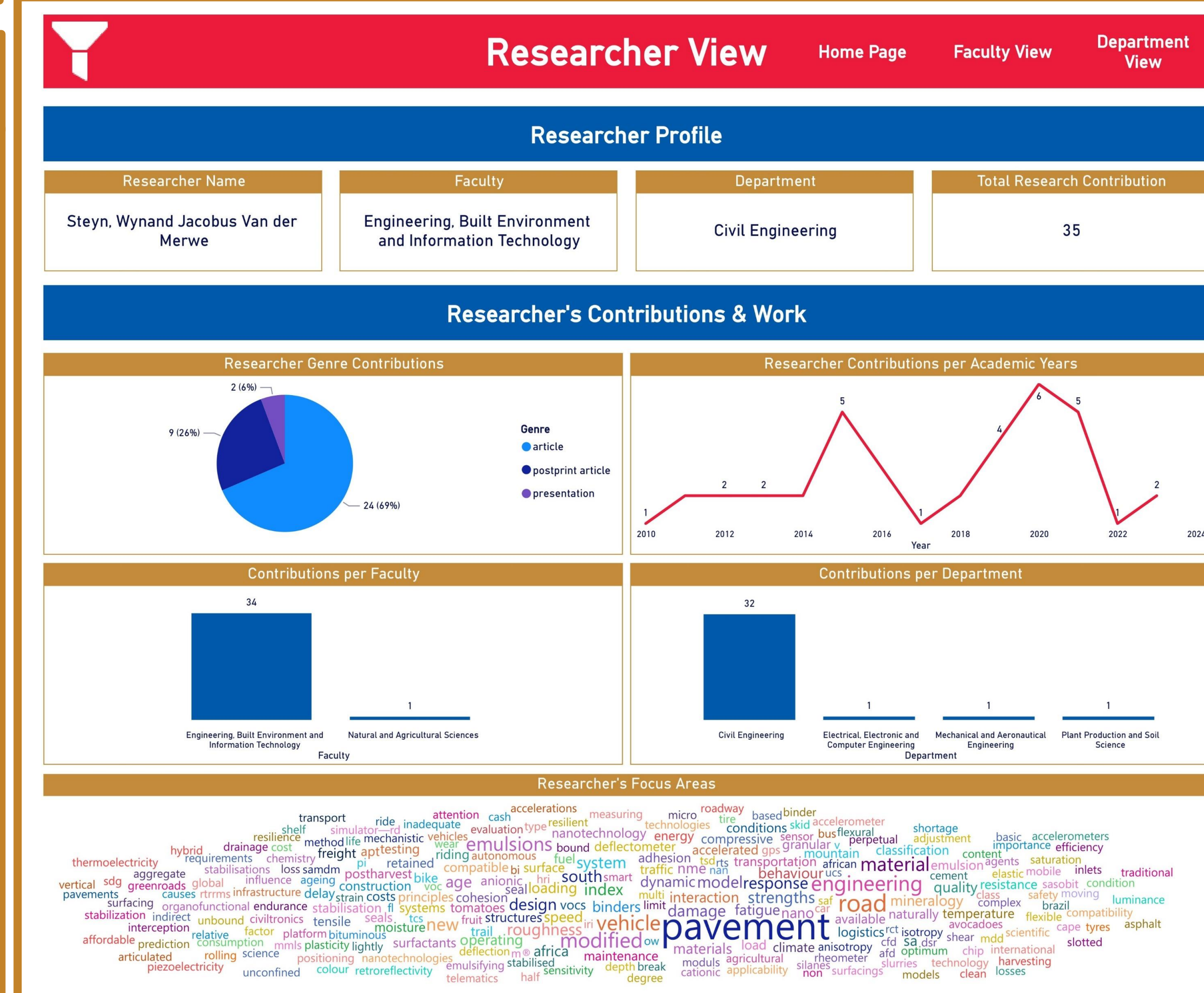
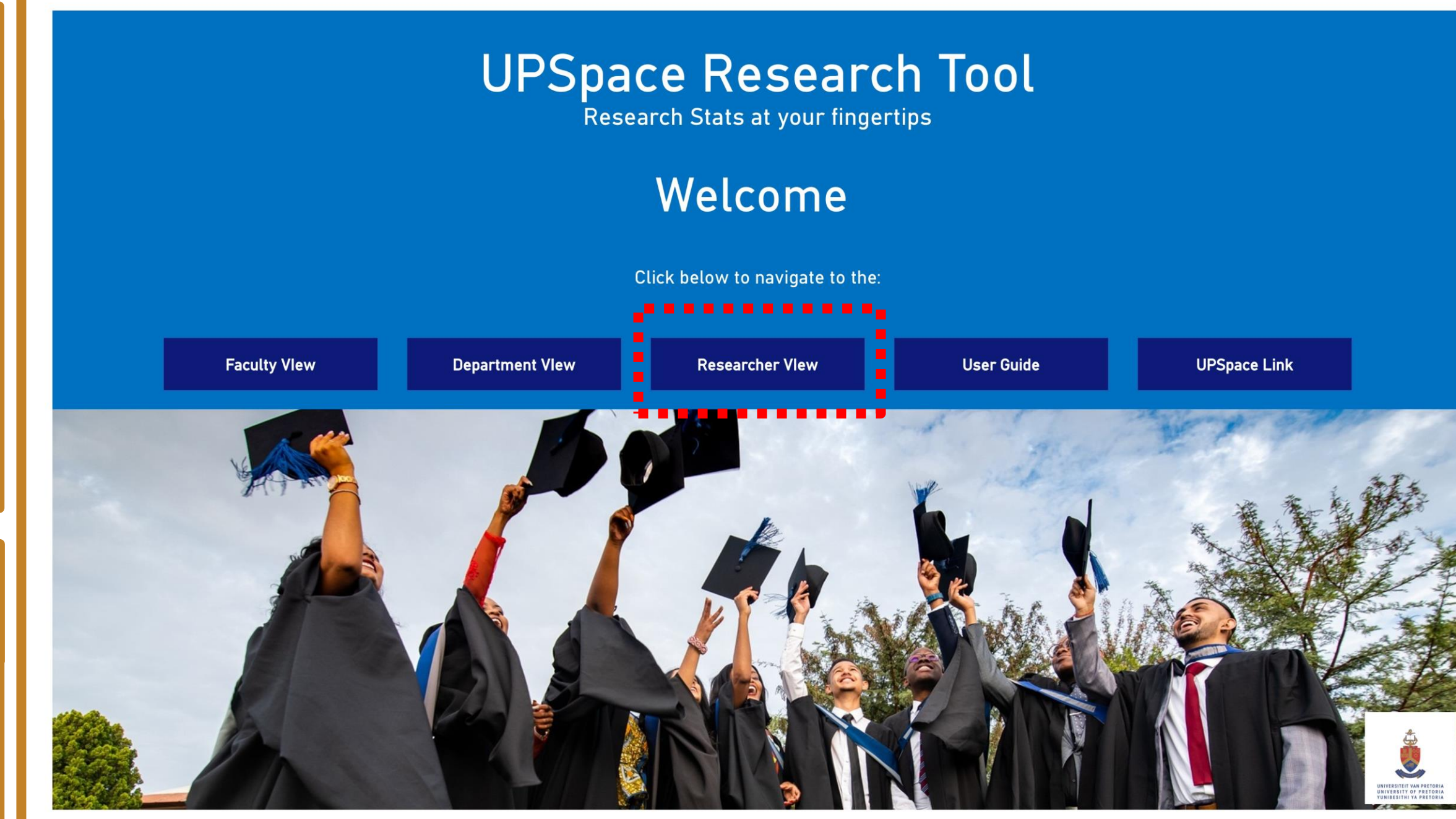
What are our Findings?

- The application of the BERTopic Model to Cluster similar records is used to help identify Suggested Collaborations. A manual validation to assess topic coherence was conducted on 100 random samples from the model outputs. The results are illustrated in the pie chart.
- A 95% Topic Coherence on the samples selected illustrates that the BERTopic model is performing adequately.



What are our Conclusions & Recommendations?

- The solution provides a holistic view of research conducted at UP and facilitates collaboration and planning for future research endeavors.
- The project and data pipeline was found to be predictable, computable, stable, and reproducible.
- For future work, it is recommended that the GNN for topic modelling be explored, and the Sustainable Development Goal (SDG) labels be incorporated on UPSpace.
- A Power BI License, a cloud or network-based database and a strong processor are necessary.



Who are suggested Researchers to Collaborate with?

Steyn, Wynand Jacobus Van der Merwe can collaborate with the following researchers who have worked on similar research topics since 2022

Faculty: All, Department: All, Topic Number: All, Academic Year: All



Department of Computer Science

Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en Inligtingstechnologie / Lefapha la Boetšenere, Tikologo ya Kago le Theknološ'i ya Tshedimošo

Capstone Project - MIT 808

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