I am a data and research professional with a strong background in both social sciences and hands-on data engineering, driven by a passion for using robust evidence to inform public-facing decision-making. My goal is to apply my mixed-methods expertise to produce high-quality, impactful analysis that serves the public good, which aligns perfectly with the mission of the Office for National Statistics. My current role involves managing the entire data lifecycle from infrastructure and ETL pipelines to analysis and stakeholder engagement, giving me a comprehensive understanding of what is required to deliver reliable data products. I have a proven ability to work together with non-technical users to define requirements and deliver solutions that meet their needs, and I am adept at communicating complex technical information in a clear and influential manner.

I am particularly drawn to the ONS's commitment to methodological rigour and its pivotal role in informing national debate. This aligns with my own dedication to the Civil Service values of honesty, integrity, objectivity, and impartiality. I am keen to bring my practical skills in Python, R, SQL, and data systems architecture to a role where I can contribute to projects of national significance, such as the Census or vital economic and social surveys, delivering results at pace while upholding the highest standards of quality.

To illustrate my approach to social research, I have outlined a proposal below that reflects my interest in the intersection of technology and public service delivery.

Research Proposal: Assessing the Health and Modernisation of UK Government Legacy IT Systems

Research Question: What is the landscape of legacy IT systems across UK government departments, and what are the key social, technical, and operational barriers to their modernisation? This research seeks to understand the lived experience of civil servants who use these systems and the impact of system robustness on their ability to deliver public services effectively.

Importance and Audience: The effective functioning of government services is contingent on the robustness of its underlying digital infrastructure. Reports of system failures, data breaches, and operational inefficiencies linked to outdated "legacy" technology are frequent. This research is important for senior leaders across the Civil Service, HM Treasury, and the Cabinet Office, as it would provide a clear evidence base to prioritise investment, manage risk, and understand the human and social factors critical to successful digital transformation. The findings would directly inform strategies to improve public service delivery and ensure better value for money, making it of significant public interest.

Research Design and Methodology: This project would employ a mixed-methods approach to provide both breadth and depth of understanding.

1. **Quantitative Phase:** A large-scale, cross-departmental survey of civil servants would be deployed to create a quantitative baseline. This would measure user-reported system robustness, frequency of issues, impact on productivity, and overall satisfaction. The survey would use stratified sampling to ensure representation across departments, key professions (e.g., policy, operations, analysis), and grades. This design is appropriate as it allows for the collection of generalisable data on the scale of the issue.
2. **Qualitative Phase:** Following the survey, semi-structured interviews and focus groups would be conducted with a purposive sample of participants. This would include frontline system users, departmental IT leaders, and senior civil servants responsible for transformation programmes. These methods are chosen to explore the "why" behind the quantitative data, uncovering nuanced experiences, identifying specific barriers (e.g., cultural resistance, procurement challenges, skills gaps), and understanding the day-to-day impact on staff and service delivery.

Analysis and Interpretation: The quantitative survey data would be analysed using R and Python. Descriptive statistics will map the landscape of legacy systems, while regression analysis will identify key drivers of low satisfaction and high risk. The qualitative data from interviews will be analysed using thematic analysis to identify recurring themes and narratives.

I would interpret the results by triangulating the findings from both methods. For example, if the survey shows a specific department has particularly low scores for system usability, the qualitative data can provide the context, explaining whether this is due to a lack of training, poor system design, or insufficient support. This synthesis allows for a holistic conclusion, moving beyond simple metrics to provide actionable, evidence-based recommendations. The final output would be a concise report for policymakers, outlining the key risks and a clear set of recommendations for de-risking modernisation projects and improving the civil servant user experience. This approach ensures the findings are not just academically sound but directly applicable to government policy and operations.