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 engagemen, 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 analysing population, housing, or economic trends, 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 market dynamics and social policy.

Research Proposal: The Impact of Concentrated Property Ownership on UK Housing Affordability Schemes

Research Question: How does the concentration of private investment ownership in local property markets affect the efficacy and accessibility of government-led housing affordability schemes in England and Wales?

Importance and Audience: Housing affordability is a critical area of public concern and government policy. Billions of pounds are invested in schemes designed to help people own their own home. However, there is a risk that in areas with high concentrations of speculative or buy-to-let investment, these schemes may be rendered less effective, with first-time buyers being out-competed. This research is important for policymakers at the Department for Levelling Up, Housing and Communities (DLUHC) and HM Treasury, as it would provide a vital evidence base to assess the real-world impact of their interventions and ensure public money is achieving its intended social outcomes. The findings would be of significant interest to the public, local authorities, and the housing sector.

Research Design and Methodology: A mixed-methods approach is appropriate here to quantify the scale of the issue and understand the underlying causal mechanisms.

1. **Quantitative Phase:** This phase would integrate several large-scale administrative datasets—a core strength of the ONS. I would use Land Registry data on property transactions to identify corporate and multi-property individual buyers, and Valuation Office Agency (VOA) data to map the rental landscape. These would be analysed at a granular geographic level (e.g., Lower Layer Super Output Area). A key analytical technique would be to create an 'Investor Concentration Index' for each area. I would then use regression analysis to model the relationship between this index and the success rates of government schemes (e.g., uptake of Help to Buy, shared ownership sales) in those same areas, while controlling for confounding local economic variables. This quantitative design is essential to identify national trends and statistical correlations.
2. **Qualitative Phase:** Building on the quantitative findings, this phase would involve case studies of areas with varying levels of investor concentration. Semi-structured interviews would be conducted with key actors: local housing officers, mortgage advisors, and recent users (both successful and unsuccessful) of affordability schemes. This qualitative approach is necessary to uncover the mechanisms behind the statistics: are investors making cash offers that scheme-users cannot compete with? Does a high density of rental properties alter the local market in other ways?

Analysis and Interpretation: For the quantitative analysis, I would use Python and R to process the datasets and run the statistical models. The results would be a series of coefficients indicating the statistical significance and magnitude of the relationship between investor concentration and scheme effectiveness.

For the qualitative analysis, I would use thematic analysis to code the interview transcripts, identifying key barriers and experiences.

My final interpretation would synthesise both strands. For example, a statistically significant negative correlation from the regression analysis, combined with interview data describing how local estate agents prioritise cash-ready investors over scheme-backed buyers, would allow me to draw a robust and evidenced conclusion. I could conclude not just *that* concentrated ownership negatively impacts affordability schemes, but also *how* it does so, providing actionable insights for policymakers to potentially redesign scheme rules or introduce targeted regulation. This ensures the research is not just an academic exercise but a valuable tool for evidence-based policy.