

You Don't Have to Live Next to Me: A Critical Review of the Schelling Model and Its Reception

Keywords: residential segregation, racial segregation, Schelling model, agent-based modelling, algorithmic bias

Extended Abstract

This is a cautionary tale about a model gone wrong. To be more precise, it accounts for how the Schelling model [1], a simplistic agent-based model from the 1960s, rose to fame with the support of countless complexity scientists and spawned a research line that relies on an implicit assumption that racial preferences of the residents drive racial residential segregation. The reception history of the Schelling model is rich with examples of how simplification, in itself a necessary feature of human survival, can lead us astray rather than guide us – if we start off from false premises [2].

Zooming back into the US as the birthplace of the Schelling model, the recent decades have seen several sparks of vigorous public debate regarding racial segregation [3]. The infamous “black self-segregation hypothesis” was discussed and even put to statistical tests [4] in the 1990s, fueled by the publication of “America in Black and White” by Thernstrom and Thernstrom [5]. More recently, the Black Lives Matter movement has played a significant role in spotlighting contemporary segregationist practices in the US [6].

Relatedly, in the sociological literature, there have been two main theoretical accounts that explain residential segregation. On the one hand, the spatial assimilation model emphasizes socioeconomic factors as the main cause of residential segregation. On the other hand, the concept of place stratification emphasizes prejudice and discrimination as a key factor that restricts the residential mobility of disadvantaged groups. Schelling’s model then can be considered as belonging to the family of place stratification models, which emphasize prejudice as a primary causal factor that creates residential segregation [7]. However, as we argue in this work, these two accounts do not exclude but rather complement each other: the process that leads to residential segregation we observe nowadays is likely to emerge from a complex interaction of both individual and systemic socioeconomic factors. Hence, our goal is to highlight how Schelling’s model might spur a body of literature that over-emphasizes evidence supporting the place stratification theory, steering attention away from systemic racist practices and instead towards individual “choices” in an approach that suffers more than it gains from its rootedness in neoclassical economics, and leads the field to overlook other, oftentimes even more critical factors that lead to the phenomenon of residential segregation.

This work is not a comprehensive literature review; rather, it showcases, with the Schelling model as an illustrative example, how getting distracted by the beauty of simplicity and failing to account for the messiness of reality can bring significant damage to humankind – and even more so when the system that is being modeled manifests intersectionally interwoven inequalities. This work is, therefore, not a manifesto against modeling – it is a call to approach modeling with thought and care and to adopt models with full consideration of their assumptions.

References

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