Foundations

Creating an AI-Powered Catalogue of Diverse UK Housing Designs

Explorative rual housing typologies by WG.XYZ

Supervisor
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Project description

This innovative research project proposes a pioneering approach to the UK housing market through the development of an AI-generated catalog of architectural designs. The UK construction industry is challenged by the need for quick and cost-effective housing solutions that also meet diverse consumer demands and stringent environmental standards. This research project explores these challenges by supporting the development of a scalable tool that facilitates the rapid customization of housing designs to specific locations and needs.

With a focus on integrating authentic UK architectural styles with advanced digital technologies, the research aims to transform current housing solutions by creating designs that are culturally resonant to the UK. Our primary objective is to disrupt the repetitiveness of current housing designs which frequently replicate identical styles across various locations. By employing AI, specifically generative models and diffusion techniques, we will expand the palette of possibilities, developing a data set for housing designs that are tailored to the specific characteristics and needs of different UK vernacular styles.

What would a modern Gothic residence look like on your street? How would a 3D-printed thatched home function in today's world? The development of the catalogue not only raises these intriguing questions but also delivers practical, innovative solutions that herald a new age in construction.

The gravest risk technology presents is not that things may change, but that they may change for the worse. Our project aspires to ensure that the inevitable technological evolution within the construction industry elevates the status quo, ensuring that the progress we embrace today crafts a better, more efficient, and more inspiring world for the generations to come. The research supports the UK Government's National AI Strategy by demonstrating the practical application of AI in the creative field of architecture and the construction industry, key priority areas. In addition to working with the supervisor, the project provides the opportunity to work with Will Garner of [WG.XYZ](WG.XYZ) and leading architectural practices.