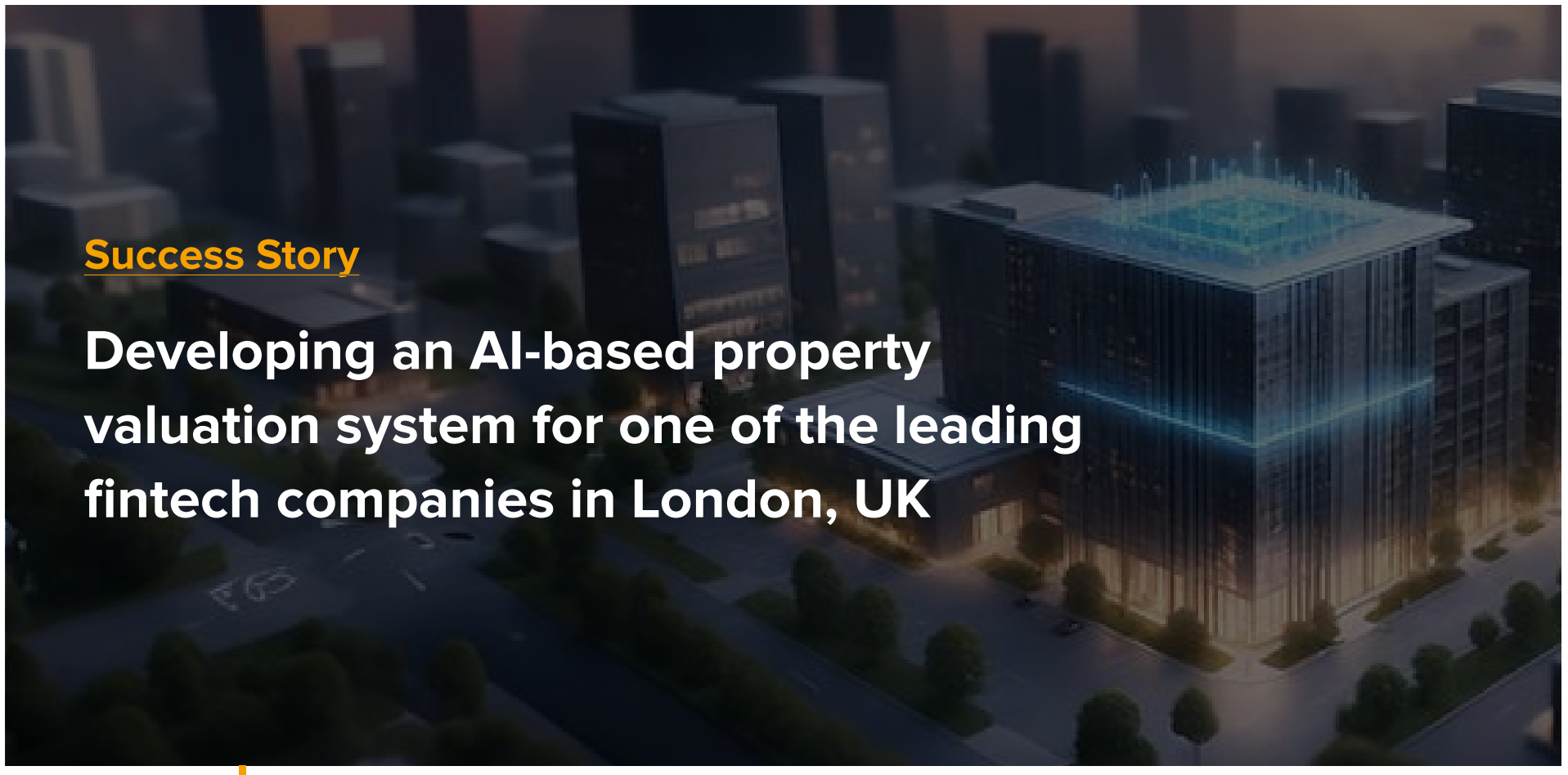

Success Story

Developing an AI-based property valuation system for one of the leading fintech companies in London, UK

Customer	Country	Industry
Leading Fintech Organisation	UK	Fintech

About The Client

The client is a London-based fintech company specializing in digitizing property valuation. Their flagship application offers a comprehensive financial analysis of residential properties in the UK to meet capital markets standards. Dedicated to leveraging technology for efficiency, they aim to simplify property valuation for lenders, financial institutions, and estate agents.

Technology Stack

TensorFlow	Keras
scikit learn	python™

Business Situation

In the realm of real estate transactions, determining the value of properties is crucial for making informed financial decisions. Traditionally, this process has been done manually, with companies relying on labor-intensive methods such as extensive paperwork, physical inspections, and manual data entry to assess property values. However, these manual processes often lead to delays, potential errors, and limited scalability.

Our client, a key player in the UK real estate market, recognized these challenges and set out to bring about a change. Their objective was to modernize property valuation through automation, harnessing their wealth of knowledge about the capital market and tapping into multiple data sources to streamline the process and enhance accuracy.

However, implementing this vision came with its own set of challenges. While the fintech company had the necessary data and expertise, it lacked the technical infrastructure needed for automation. To meet these goals, the entity was on the lookout for a technology partner with expertise in custom digital platform development for real estate and fintech domains.

After examining various vendors, Daffodil Software was meritoriously selected for its proven track record, flexible approach, and expertise in key areas such as business process automation, data analytics, and digital transformation.

The key requirements were to:

- Develop a solution to automate the property valuation process, reducing turnaround time and improving overall efficiency.
- Gather property data from diverse sources and employ imputation techniques to fill in missing information.
- Design an intuitive interface for easy access and navigation for client’s team members and customers.
- Create a scalable solution capable of handling a large volume of property valuation requests efficiently, with the ability to accommodate future growth.
- Implement robust security measures to protect sensitive property data and ensure compliance with data privacy regulations.
- Integrate the automated valuation model with the client's existing software systems and workflows to facilitate smooth operation.

The Solution

To address the challenges outlined by the client, Daffodil Software began by analyzing the given key requirements and objectives. Through in-depth discussions with stakeholders and a thorough analysis of the real estate market dynamics, our team gained insights into the shortcomings of manual property valuation processes.

Following the research phase, our expert product designers carefully examined the solution requirements, crafted user stories, feature lists, process flow diagrams, and prototypes for the system.

With the roadmap solidified, the Daffodil team initiated the development of an AI-based property valuation system using a deep learning API known as Keras, TensorFlow, and Python for backend functionality.

The final automated property valuation system created by Daffodil consisted of the following phases and capabilities:

Data integration and preprocessing

One of the initial steps involved consolidating and preprocessing vast amounts of data from more than 10 sources including property listings, transaction histories, lease information, and market trends. The dataset comprised approximately 70 million training instances, necessitating the use of data preprocessing techniques to ensure data quality and integrity. Imputation techniques were employed to enrich more than 7 million missing data values. Additionally, we integrated outlier detection techniques to analyze over 3 million data points, ensuring model accuracy by identifying and addressing anomalies.

AI model development

With a large dataset in hand, we turned our focus to AI model development. We explored various machine learning algorithms, ranging from traditional regression models to advanced deep learning techniques. Our team conducted over 100 model experiments to develop a highly accurate valuation model capable of predicting property values with precision. Real-world testing scenarios were simulated to assess the system's performance based on diverse factors such as location, neighborhood area, transaction history, and local market conditions.

Upon successful validation, the AI-driven valuation system was deployed, seamlessly integrating with the client's existing infrastructure. Leveraging cloud-based technologies, our solution was designed for scalability, allowing it to handle large volumes of data and accommodate fluctuations in user demand. Automated monitoring and alerting mechanisms were implemented to proactively identify and address performance bottlenecks, ensuring optimal system performance at all times. Additionally, ongoing maintenance and support services were provided to the client, enabling them to leverage the full potential of the valuation system while staying ahead of evolving market trends and requirements.

Some highlights of the AI-driven property valuation system:

Leveraging the Automatic Valuation Model (AVM), estate agents could gain independent insight into their agency’s relative performance, using the Market feature to see who is moving the most stock, the quickest, and achieving the highest prices.

Lenders could review their risk appetite using the Property Intelligence feature to analyze price, stock, and liquidity trends, and make better faster decisions.

Users could use the Neighbourhood feature to compare a property’s configuration, size, and value to its neighbors. They could analyze transaction history on all neighboring properties and area record sales to form a view on valuation before even looking at comps.

The Impact

The AI-driven property valuation system developed by Daffodil Software achieved remarkable accuracy rates of 93%. This high level of accuracy, coupled with automation, significantly reduced turnaround time, enhanced precision, and streamlined operations for the client. With its intuitive interface, scalability, and robust security measures, the system empowered them to make informed financial decisions confidently, staying ahead in the dynamic real estate market. Recognizing our efforts and expertise, the fintech company entrusted us with additional projects, affirming our reputation as a trusted partner in delivering optimal AI solutions.

Services Used

- AI consulting
- AI development service
- UI/UX Services

Have a software product vision in mind?

Setup a personalized consultation with our technology expert.

Let's Talk