Embracing the Next-Generation AVM

The Value of the Machine Learning Approach in Tech-Based Valuation

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INTRODUCTION

Automated valuation models (AVMs) are effective property valuation tools. But they're kind of like magic — enter an address, and an estimated value appears. For consumers, that simplicity is perfect. But for financial institutions that use AVMs for lending decisions, quality control, or other situations that carry risk, the mechanics behind that simplicity must be well understood.

AVMs are efficient and cost-friendly, but there are many to choose from, and each calculates estimates in its own way. In a highly-regulated environment, financial institutions can't use an AVM when they don't trust the values it produces or understand how it works. Some AVM providers game AVM tests to their advantage, further eroding the trust of the financial industry and those who may be impacted most: borrowers.

So where can financial institutions turn to find AVM providers that build and test their models the right way? And what should financial institutions look for in an AVM provider, anyway? In this white paper, we hope to guide you to the answer.

MECHANICS,
USES &
A DISTINCTION

THE MECHANICS OF MOST AVMS

AVMs have existed since the 1990s, but the rise of big data and increased computing power has recently caused their popularity to grow. So, what is an AVM and how does it work? Put simply, an AVM is a computer algorithm that produces an estimate of a property's value without human assistance. Every AVM has its own method of calculating that value, but most take nearby real estate data — including recent sale prices, characteristics, and features of nearby properties — and feed that data to algorithms to generate an estimate. The most well-known AVM is likely Zillow's Zestimate.

A TOOL WITH MANY USES

Although lenders and regulators approach them with caution, AVMs are gaining popularity as an effective and trustworthy solution in more and more situations. An AVM, especially when combined with a property inspection, can be an effective valuation tool for home equity lending. An AVM can provide a quick and cost-effective way to value a pool of loans for portfolio valuation. An AVM can be used for an appraisal waiver program when a loan isn't risky enough to require an appraisal. An AVM can serve as an effective quality control tool or provide a quick pre-valuation "gut check." And finally, an AVM can make collateral review and underwriting processes more efficient.

LENDING– VS. MARKETING–GRADE

There are many AVMs out there, each built upon a certain set of data and each with its own calculation method. This creates a lack of standardization and wildly varying levels of AVM quality. To simplify, we can categorize AVMs as either marketing-grade or lending-grade. Marketing-grade AVMs are typically public-facing, designed to pique the interest of potential borrowers, and useful for sales lead generation. Lending-grade AVMs are typically business-facing, designed for situations that require highly-precise results, and used by financial institutions. Among the roughly 20 lending-grade AVMs that currently exist, there are only a few that consistently produce accurate results with a high "hit rate," or coverage. We'll dive into lending-grade AVMs in the next section.

THE LENDING-GRADE AVM FORMULA

Properties are complex, and the fact that there's more than one AVM means there are many different property valuation philosophies. So, what should financial institutions look for in an AVM provider? The following is a formula for a highly accurate, lending-grade AVM:
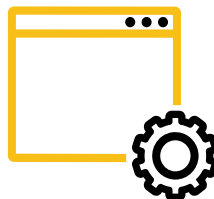
QUALITY DATA

+

VALUATION EXPERTISE

+

MACHINE LEARNING

Marketing-grade AVMs often do not employ all three of these components, and many AVMs claiming to be "lending-grade" are still missing components of the formula. Let's break down the formula a bit.

QUALITY DATA

An AVM can only be as good as the data that powers it. A large amount of data isn't enough, or even best — what matters more is the accuracy and timeliness of that data. The MLS is a self-correcting database — updated daily by real estate professionals across the nation — and is widely considered the gold standard of up-to-date property information. A highly-accurate, lending-grade AVM should be built upon a comprehensive and high-coverage database of MLS information, in addition to public records and other sources. It's also important that financial institutions ensure their AVM provider sources their MLS information in a compliant manner, to reduce risk. Lastly, since multiple sources may have conflicting data for the the same property, an AVM provider should employ a data governance program to choose the most reliable and accurate source for each property.
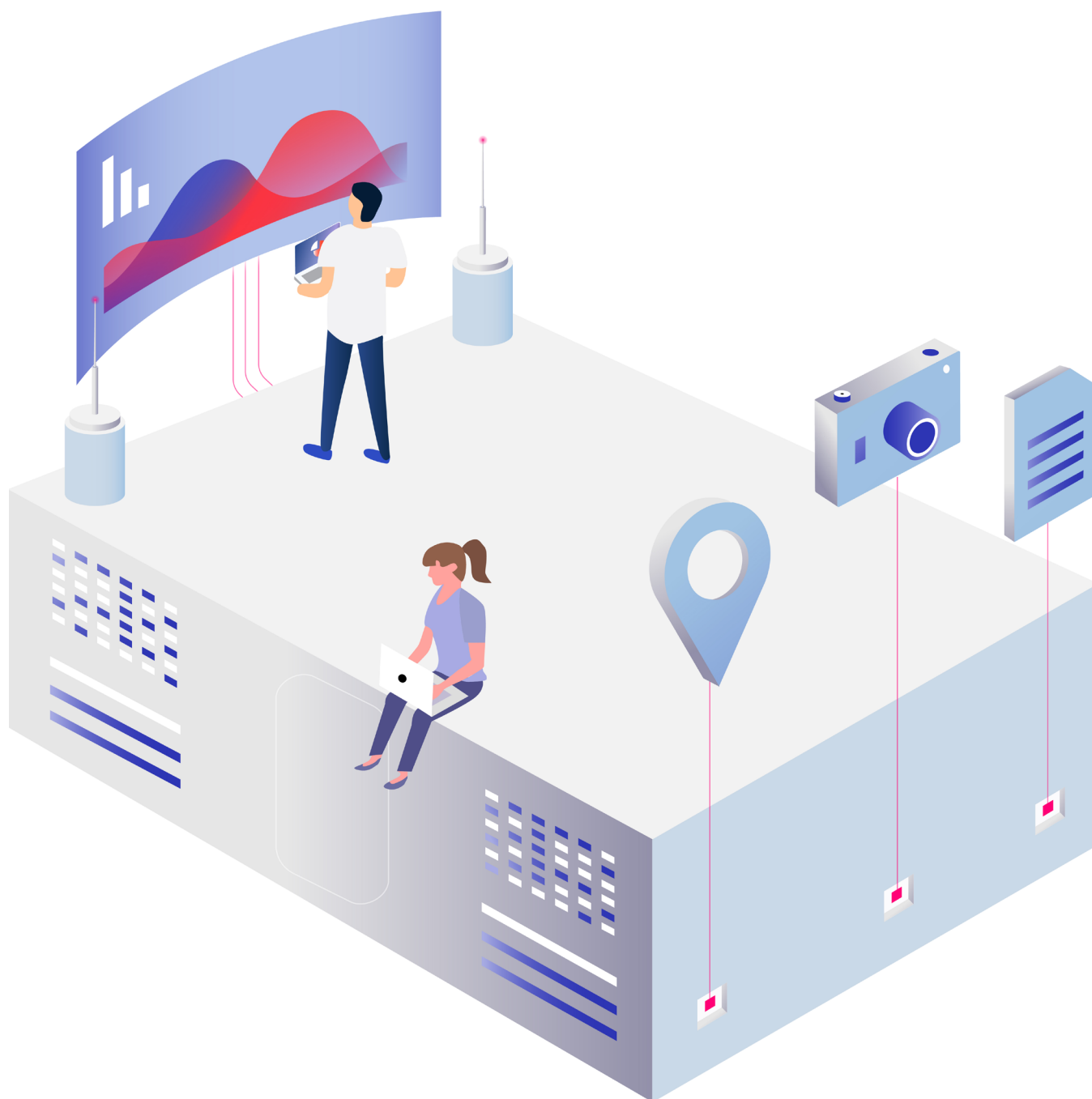
VALUATION EXPERTISE

While an AVM can quickly process an immense amount of data much faster and more accurately than a human, it can only be as good as the human minds who built it. That is to say, the best AVMs are built — or at least informed — by humans with an existing and comprehensive understanding of how to do property valuations well, like appraisers or companies with "boots on the ground" valuation expertise. The more years of that experience the better, to include experience with market cycles. A lot of AVMs — both marketing-grade and lending-grade — lack the "valuation expertise" component.

MACHINE LEARNING

Finally, a modern AVM must be built upon good algorithms and powered by good, scalable technology. The knowledge of how to work with data may not be enough anymore — while the AVMs that have been around for decades have developed a certain amount of staying power, their highly-manual methods weren't built to keep pace with rapid innovation. An AVM built by economists or statisticians without much valuation expertise — the "stats approach" — may result in a model that is less accurate and much less scalable, since the intricacies in each market must be identified, built into the AVM, and updated manually, often involving years of research and fine tuning. An AVM built by computer scientists with valuation expertise — the "machine learning approach" — results in an incredibly accurate model that is also quickly scalable, since the AVM can teach itself the intricacies from the market level down to the property level, build them into the AVM, and keep them updated automatically, in near-real-time.
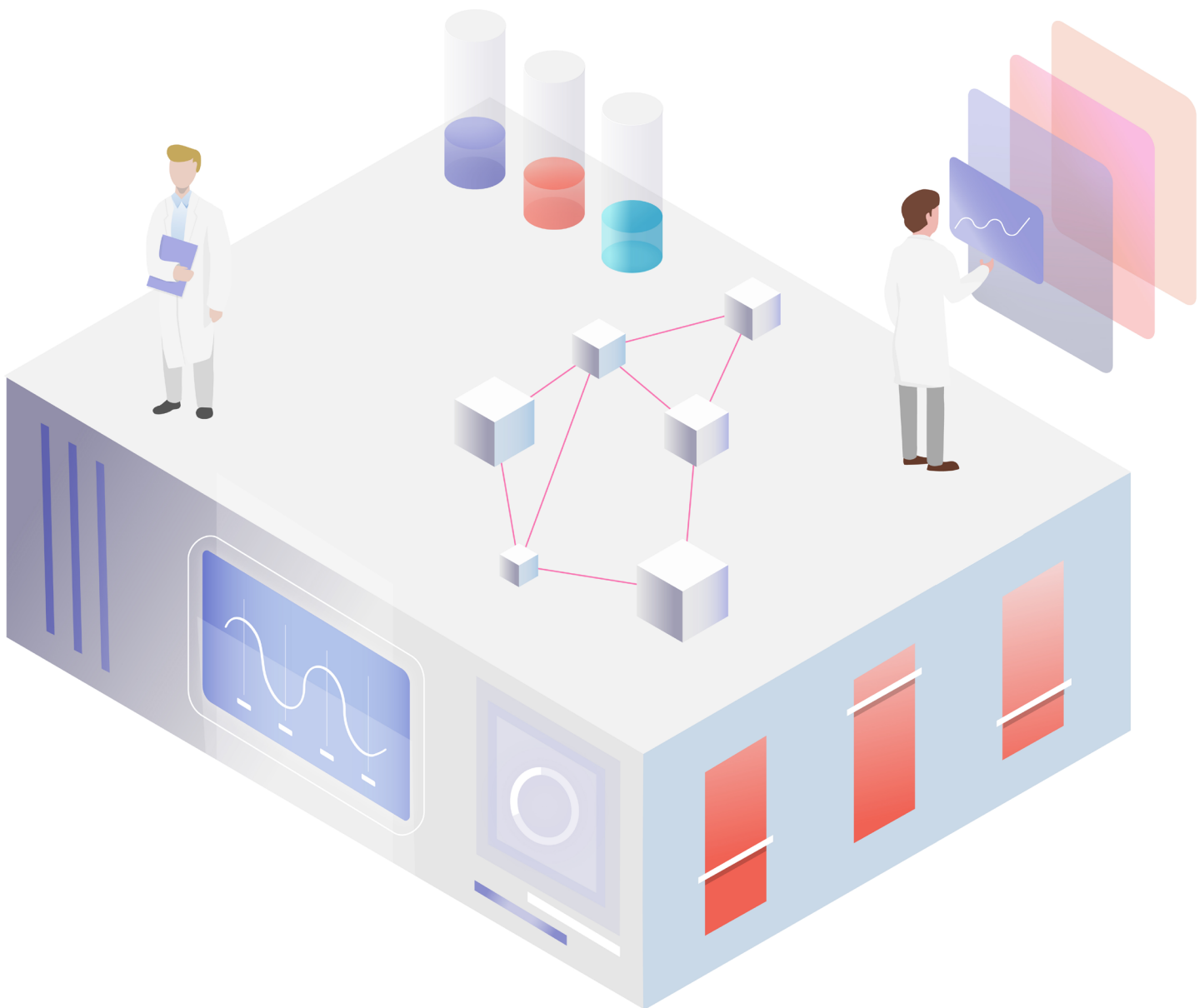
THE HUMAN ELEMENT

HUMAN-DRIVEN CONSIDERATIONS

AVMs consider massive amounts of data to generate their estimates. But they can only look backward in time — AVMs can't (yet) include all the variables that a human could include from visiting a property, or from working in a local real estate market each day. The special characteristics in a property — that certain "je ne seis quoi," if you will, like a living room's atmosphere, the property's view, or the neighborhood's "feel" — are imperceptible to AVMs. All this to say, while AVMs do a good job most of the time, many situations require the input of a highly-skilled appraiser.

AVMS VERSUS APPRAISALS

AVMs are quicker, cheaper, and more readily available than appraisals. But even the best AVM can only provide an estimate of value based on known factors. AVMs will have difficulty considering things that negatively impact value (like messy neighbors or noise pollution) and positively impact value (like kitchen remodels or add-ons). Appraisals may take longer to complete, cost more, and require scheduling, but for now, they provide the most accurate valuation. That said, there's value in using an AVM in tandem with an appraisal, whether during pre-valuation to provide transparency and set borrower expectations, during quality control to verify the accuracy of an appraisal, or other situations.

AVMS AND APPRAISERS

AVMs won't be replacing appraisers anytime soon. In fact, the best AVMs use machine learning to try and "think" like appraisers — their models are programmed in the same way a trained expert would approach a valuation, highlighting the immense value and necessity of the appraisal profession. An AVM is not always suitable for lending decisions, and not every property can be valued with an AVM. AVMs are a compliment to appraisals, and certainly have their place in the lending workflow when the situation is right, but appraisals remain the gold standard in valuation accuracy.

CONCLUSION

While they've been around since the 1990s, AVMs are gaining popularity in more and more situations today, and AVM providers have a responsibility to build and test their AVMs the right way. Different from marketing-grade AVMs, lending-grade AVMs are designed to be used in situations that require highly-precise results. The best AVMs set the standard with a combination of data quality, valuation expertise, and machine learning. While AVMs do a good job most of the time, they have trouble considering things an appraiser can, like the special characteristics of a property and things that negatively or positively impact value. And even though the best AVMs are trained to "think" like appraisers, they're not always suitable for lending decisions, and not every property can be valued by an AVM.

If you're interested in MLS information and what to look for in a legitimate MLS-based solution provider, download our white paper, "Navigating the Universe of MLS-Based Solutions."

ABOUT CLEAR CAPITAL

Clear Capital provides technology-driven intelligence to the nation's leading financial institutions to inform real estate decision-making. Clear Capital's valuation, analytics and platform solutions are built upon its comprehensive and proprietary database of more than 45 years of information on nearly every U.S. property, and trusted by community credit unions and leading, billion-dollar institutions alike. Clear Capital is headquartered in Reno, Nevada and employs more than 500 people nationwide.

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