Nearest-Neighbors for Land Value Assessment

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*Abstract*—This paper explores the application of nearest-neighbor regression to land value prediction within the city of Edmonton, Alberta, Canada. Assessed value, parcel location, parcel size, and parcel vacancy data was collected from the City of Edmonton Open Data Portal. 1454 vacant parcel examples were suitable for model fitting. A Euclidean distance weighted nearest-neighbor regression model was evaluated using 5-fold cross-validation using a number of model scoring metrics.

The model performed inconsistently between cross-validation folds, with large changes in evaluation depending on the test-train split. The model also performed poorly – the best split had an explained variance score of only 0.11.

Further refinement is required to leverage nearest-neighbor regression for accurate estimation of land values in the City of Edmonton.

Keywords—nearest neighbors, regression, land value prediction, property assessment

# Introduction

This template, modified in MS Word 2007 and saved as a “Word 97-2003 Document” for the PC, provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

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* Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.
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*a**b* 

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## Some Common Mistakes

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
* In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
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1. Table Type Styles

| Table Head | Table Column Head | | |
| --- | --- | --- | --- |
| Table column subhead | Subhead | Subhead |
| copy | More table copya |  |  |

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##### Acknowledgment *(Heading 5)*

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##### References

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7. M. Young, The Technical Writer’s Handbook. Mill Valley, CA: University Science, 1989.

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