**Support Vector Machine**

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| **Logistic regression vs support vector machine** |
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| **Logistic Regression**    **Support Vector Machine** |
| **Logistic hypothesis vs VSM hypothesis** |
| **Logistic hypothesis**    **VSM** |
| **Large Margin** |
| maximize margin to get optimal decision boundary  If C 🡪 large:  Overfitting / change decision boundary accordingly to 1 extra training example  Else: won’t  **Mathematics behind margin of SVM** |
| **Kernels** |

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| Given x, compute new feature depending on it’s similarity to landmarks l(i)    When x = landmarks, f1 = 1. Else, f1 = 0  The larger the σ, higher bias, else, high variance    Large lambda = small C = high bias  Small lambda = large C = high varience  **Intuition** |
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| **Selecting landmarks** |
| Put landmarks at the same location as the training examples        B term is j = 1:m, since size of theta match the size of f(i) |
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