

Tutorial 3 - DTs, SVMs, KNNs (oh my!)

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Monday 27th September, 2021

Disclaimer: Tutorials will be Recorded

Privacy Preservation (easy):

- I will keep participant video off-screen
- I will address questions in the chat by **first name** only
- **You** should stay muted and ask questions in the chat¹.

¹I encourage unmuted/voice-based questions at any time, but know that this isn't explicitly privacy-preserving

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Privacy Preservation (less easy):

If the above *hinders your ability to learn* \wedge *violates your privacy*, please let me/Dr. Green know ASAP and video will be post-processed accordingly.

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ML Weekly

Recent news events from the ML community

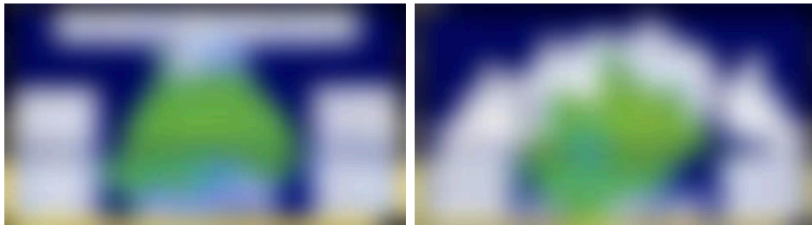
ML Weekly

1. **(AI-driven VFX)** AI might help edit the next generation of blockbusters



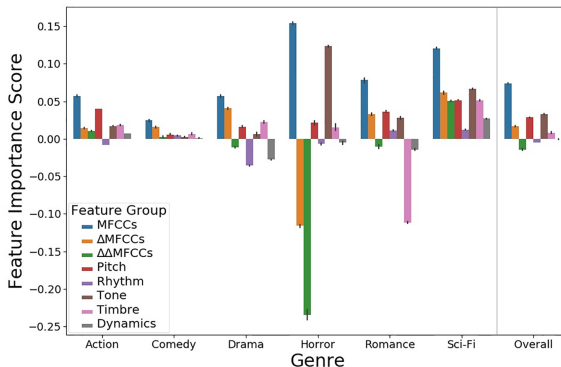
ML Weekly

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2. **(Reinforcement Learning)** Google is using AI to design its next generation of AI chips more quickly than humans can



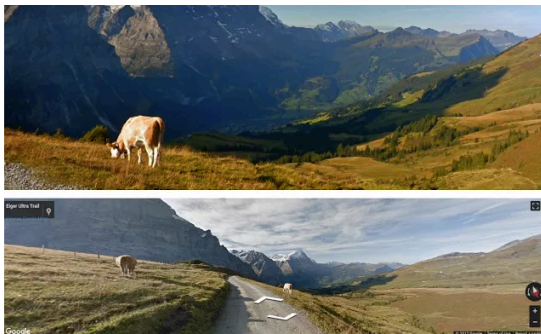
ML Weekly

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3. **(Vision)** Is it a horror film or a rom-com? AI can predict based solely on music



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3. **(Vision)** Is it a horror film or a rom-com? AI can predict based solely on music
4. **(Classification)** Google is using AI to create stunning landscape photos using Street View imagery



Tutorial Intuition

Building an Intuition for the Concepts of this Tutorial

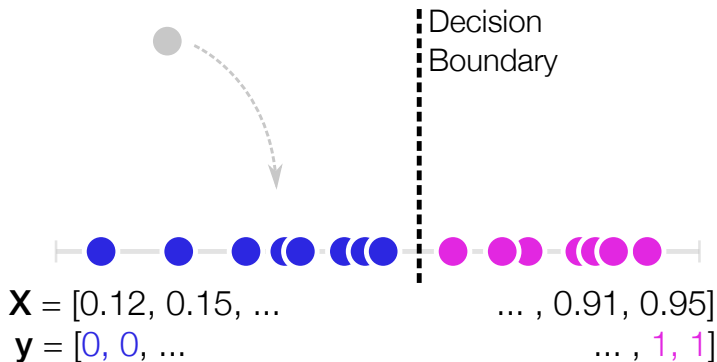
Creating and Visualizing Decision Boundaries



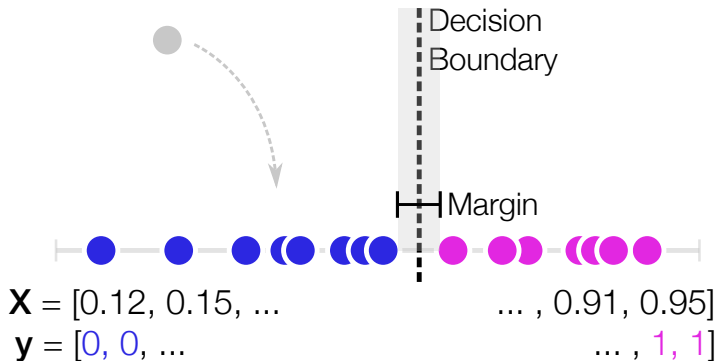
Creating and Visualizing Decision Boundaries



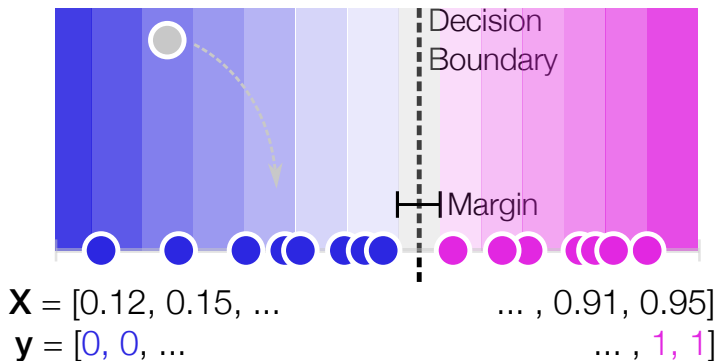
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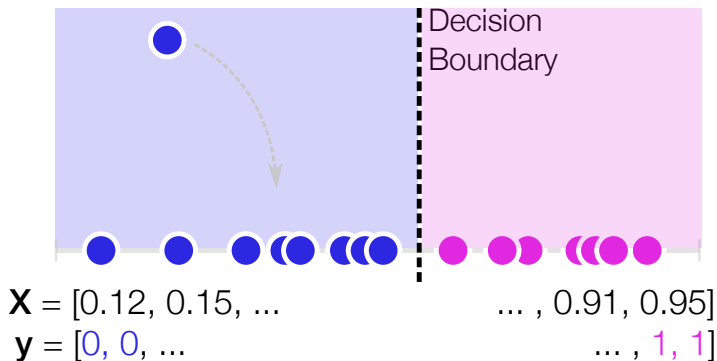
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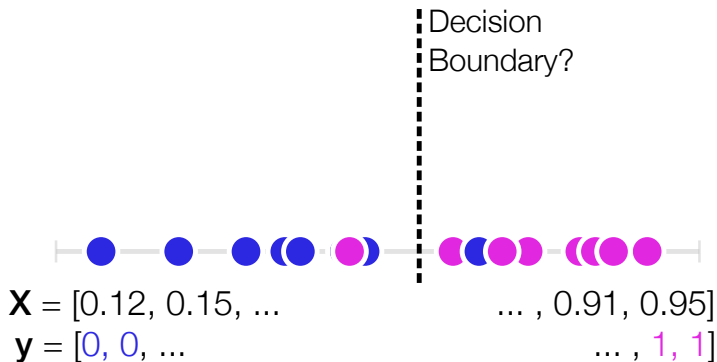
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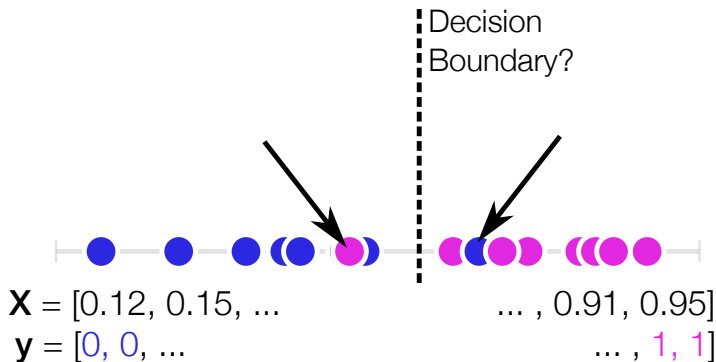
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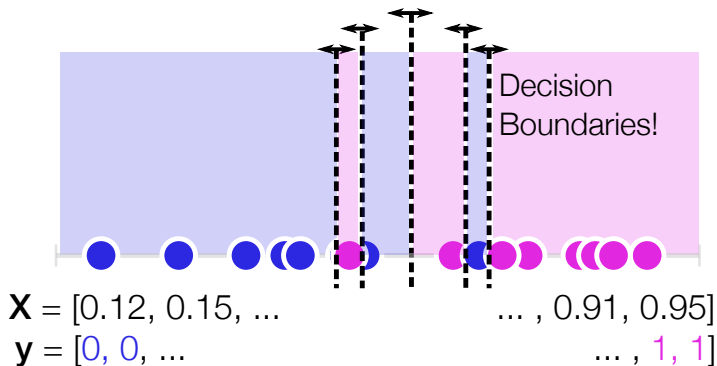
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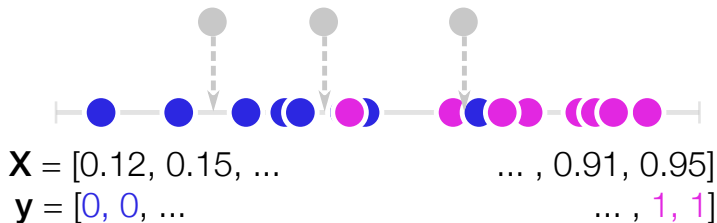
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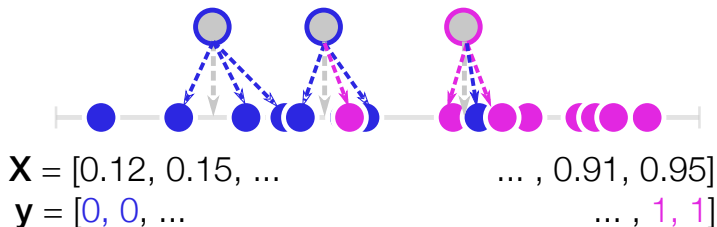


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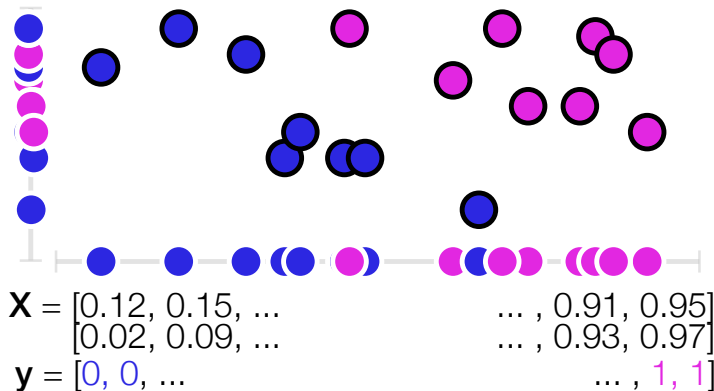


Creating and Visualizing Decision Boundaries

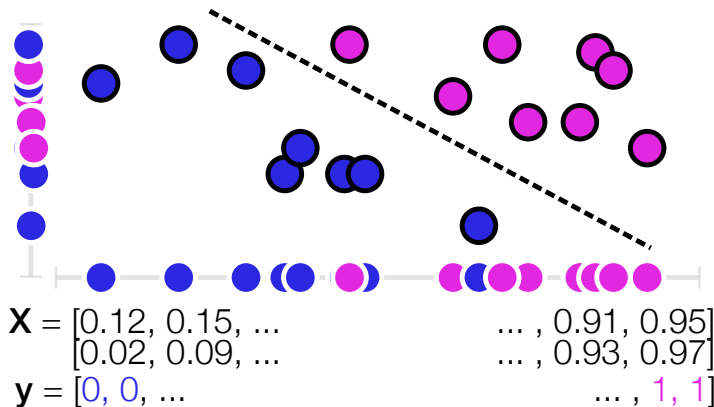
Instance-Based Method 3-Nearest Neighbours



Creating and Visualizing Decision Boundaries



Creating and Visualizing Decision Boundaries



Comparing “Classical” ML Algorithms

In this tutorial, we will build and compare *classical* learning algorithms and demonstrate where each are more or less useful.

Key Takeaway: no one method is a *Silver Bullet*!

When linear regression would have done the job, but someone just really wanted to be using deep learning.



James Farmer @JamesFarmer87 · 1d

Well this has made my day.



3:06 a.m. · 20 Sep. 20 · [Twitter for iPhone](#)

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Notebooks

We will cover one new notebook and (with enough time) cover a previous tutorial.

1. Tutorial 3 - DTs, SVMs, KNNs (oh my!)
2. Tutorial 2 - The Prototypical Machine Learning Notebook (Iris Dataset)

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