

	Introduces...	By making a...	Teaching a machine to recognise...	What they will learn
Lesson 1: “Smart Classroom”	Confidence thresholds	Virtual Assistant	text	<ul style="list-style-type: none"> <li>How computers can be trained to recognise the intent behind writing.</li> <li>Confidence thresholds indicate when the machine cannot recognise the meaning.</li> <li>How virtual assistants (e.g. Apple Siri, Amazon Alexa, Google Home) work.</li> </ul>
Lesson 2: “Make me happy”	Sentiment analysis	Scratch character	text	<ul style="list-style-type: none"> <li>How computers can be trained to recognise emotional tone.</li> <li>How supervised learning builds systems that can deal with unexpected input.</li> </ul>
Lesson 3: “Rock, Paper, Scissors”	Image recognition	Webcam game	images	<ul style="list-style-type: none"> <li>How computers can be trained to recognise pictures.</li> <li>The important of variety in training machine learning systems.</li> </ul>
Lesson 4: “Mailman Max”	Handwriting recognition	Sorting Office game	images	<ul style="list-style-type: none"> <li>How computers can be trained to recognise handwriting</li> <li>How OCR is used to automate tasks like recognising postcodes on letters</li> </ul>
Lesson 5: “Pac-Man”	AI in games	Pac-Man	numbers	<ul style="list-style-type: none"> <li>How machines are taught to play games</li> <li>Decision tree learning as a way for computers to learn how to play games.</li> </ul>
Lesson 6: “Sorting Hat”	Text classification	Harry Potter game	text	<ul style="list-style-type: none"> <li>How computers can recognise different types of language.</li> </ul>

	Introduces...	By making a...	Teaching a machine to recognise...	What they will learn
Lesson 7: “Judge a book”	Image recognition	Scratch game	images	<ul style="list-style-type: none"> <li>How effectiveness of a machine learning system can be measured by comparing performance against humans.</li> </ul>
Lesson 8: “Noughts & Crosses”	AI in games	Noughts & crosses	numbers	<ul style="list-style-type: none"> <li>How machines have been taught to play games since the 1960’s.</li> <li>Decision tree learning as a way for computers to learn how to play games.</li> </ul>
Lesson 9: “Tourist Info”	Training bias	Holiday app	text	<ul style="list-style-type: none"> <li>The impact of training bias on machine learning systems</li> <li>Ethical questions introduced by training bias in machine learning systems.</li> </ul>
Lesson 10: “Top Trumps”	Categorical data	Scratch card game	numbers	<ul style="list-style-type: none"> <li>Collecting training is easier than manually labelling training data.</li> <li>Computers can learn to play games where the correct answer cannot be known, by predicting the likelihood of each outcome.</li> </ul>
Lesson 11: “Confused”	Overfitting	Photo recogniser	images	<ul style="list-style-type: none"> <li>Variation in training data is essential for a reliable machine learning system.</li> <li>The “Russian Tank” problem.</li> </ul>
Lesson 12: “Headlines”	ML testing	Test system	text	<ul style="list-style-type: none"> <li>How computers can be taught to recognise the source of writing</li> <li>How machine learning systems are tested.</li> </ul>