Lecture plan

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| 1. What is Q&A    1. Three part taxonomy       1. What information source does a system build on?       2. Question type       3. Answer type    2. History       1. Watson 2011. Very complex system like BAE.       2. Almost all SOTA QA built on top of end-to-end training and pre-trained models e.g. BERT |
| 1. Reading comprehension    1. 2017: Stanford Attentive Reader uplift from 51 to 79 in SQuaD QA    2. 2018: BERT 91.8. Human 91.2. Question SEP Paragraph.       1. We have already exceeded human performance in QA. Holy shit.       2. Question: Why is BERT better? Architecturally it’s better and flexible because jointly processing question and answer rather than separately modelling the questions and answers as disjoint systems and then linking them (1 hr 5 min). Why not do this for everything? It costs more time to do this.       3. Extension: **masking spans** improves performance       4. Reading comprehension isn’t fully solved:          1. adversarial examples          2. examples from out of domain distributions          3. systems trained on one dataset doesn’t generalise to other tasks |
| 1. Open domain (textual QA)    1. Instead of a given passage, just have a large collection of documents e.g. wiki. Two step pipeline: retrieve document then retrieve passage.    2. **Retriever-reader framework** |
| 1. Non NLP QA    1. Graph structures    2. Vision |