Can we teach a machine to answer questions given a passage? We set out to develop a model using deep learning to answer questions using the SQuAD 2.0 dataset.

Example from Stanford Question Answering Dataset:
- **Question**: Which NFL team won Super Bowl 50?
- **Passage**: Super Bowl 50 was an American football game to determine the champion of the National Football League (NFL) for the 2015 season. The American Football Conference (AFC) champion Denver Broncos defeated the National Football Conference (NFC) champion Carolina Panthers 24–10 to earn their third Super Bowl title.
- **Answer**: Denver Broncos

**Approach**
- **Character Embedding**
- **Match-LSTM and Answer Pointer**

**Results**
- **Character Embedding**
  - Orange: Baseline
  - Green: Baseline with Character Embeddings
  - Blue: Baseline with GRU instead of LSTM

- **Match-LSTM and Answer Pointer**
  - Red: Baseline
  - Blue: Match-LSTM with Answer Pointer
  - Red: Baseline
  - Blue: Match-LSTM with Answer Pointer

**Conclusion**
- Improved baseline model performance and training efficiency with added character embeddings, changing LSTMs to GRUs, and hyperparameter tuning
- Implemented new Match-LSTM architecture, but computational and time limitations hindered ability to test, tune, and fix the model
- Further work to be done in improving Match-LSTM efficiency and performance
- Relying less heavily on LSTMs for faster training given resources available

**References**