**Problem:** The question answering task involves returning the correct answer given a question and a paragraph of context. This is a central task in NLP that is used to evaluate machine comprehension of natural language. The SQuAD dataset has a particular characteristic where the answer is a section of text within the given paragraph.

**Background:** The baseline for this project is the Bidirectional Attention Flow (BiDAF) model, minus character-level embeddings. The model takes as input two arrays of word indices for the question and the context paragraph and runs them through the following architecture:

- **Inputs**
- **Embedding Layer** (Embedding + Projection + Highway Network)
- **Encoder Layer** (Bidirectional LSTM)
- **Attention Layer** (Bidirectional Attention Flow: Context to Question & Question to Context)
- **Modeling Layer** (Bidirectional LSTM)
- **Output Layer** (Bidirectional LSTM)

Character-level embeddings for the inputs were also implemented in the embedding layer.

**Methods:**

The Answer Pointer layer, based on the Pointer Network architecture, replaces the output layer of the baseline model and conditions the end position on the start position.

**Analysis:**

- Both character embeddings and Answer Pointer led to slight decreases in performance
- More hyperparameter tuning may help
- Answer Pointer alone may not be enough for significant improvement (no ablation study done in original paper)
- Answer Pointer may be biased towards producing answers over N/A

**Conclusions:**

- Importance of elements aside from model architecture
- General best practices when engaging with research
  - Reading papers that are similar to or contributed to the current paper
  - The usefulness of ablation studies

**Experiments:**

- Baseline
- Character Embeddings
- Character Embeddings + Answer Pointer

- dev/EM tag: dev/EM
- dev/F1 tag: dev/F1
- dev/NLL tag: dev/NLL