Morphological Inflection is the task where, given a lemma, e.g.
\textbf{agu\text{"a}}, and a set of morphological tags, e.g.
\textbf{V; PRS; Z; PL; IND;}
one has to generate the correctly
inflected form, e.g.
\textbf{agu\text{"a}}

In low-resource settings this task is
still very challenging.

We combine several techniques:
1. a novel two-step attention for the
decoder
2. data hallucination
3. multi-tasking with a simple
copying task
4. cross-lingual transfer from
multiple related
languages

and achieved state-of-the-art results
over 44 test languages (from the
SIGMORPHON 2019 challenge),
with a gain of more than 15 points
over the baseline.

In the SIGMORPHON 2020 Task 0
shared task, our additions were:
1. Add transliterated/romanized
transfer language data for related
language pairs that nevertheless
use different scripts:
  - Classical Syriac (Arabic, Hebrew)
  - Maltese (Italian, Hebrew)
  - Oromo (Arabic, Hebrew)
  - Bengali (Sanskrit, Hindi)
  - Tajik (Farsi)
  - Pashto (Farsi)
2. create language specific transfer
models using related languages
only for low-resource settings,
e.g.:
  - Ladin (Friulian)
  - Ludian (Karelian, Veps)

Results:
Ranked 20th among 31 systems,
with non-optimized LSTM-based
systems.

Take-away:
The top-3 systems of the shared
task offer much better solutions,
which however should be able to
be improved upon using language-
specific approaches.