Briefly Noted

Challenges for Arabic Machine Translation

Abdelhadi Soudi[1]**, Ali Farghaly**[2]**,
Günter Neumann**[3]**, and
Rabih Zbib**[4] **(editors)**
([1]École Nationale de l'Industrie Minérale,
[2]Monterey Institute of International Studies,
[3]German Research Center for Artificial
Intelligence, [4]BBN Technologies)

As the name of the book suggests, Arabic is a rather challenging language to handle in a machine translation (MT) system. The main challenges that are discussed and tackled throughout the book include Arabic complex morphology and a different syntactic structure from English.

The book assembles recent work targeting Arabic-to-English and English-to-Arabic machine translation. Paradigms for MT include statistical MT (SMT) and example-based MT (EBMT). Techniques to improve the MT quality include preprocessing (Arabic segmentation, reordering) and syntactic models for SMT, and generalized matching for EBMT. The domains of research that are presented in the book are rather broad, but it lacks a unified experimental environment, rendering a comparison of the empirical results hard. One additional caveat is the partial quantitative information about Arabic translation challenges. Statistics about Arabic ambiguity and about the amount and complexity of reorderings, and a comparison to other language pairs (e.g., German–English), could be meaningful and relate well to the title of the book. Additionally, this information can justify the need for a special treatment of the Arabic language within the MT community.

Finally, the strong side of the book includes exploration of less dominant research fields as English-to-Arabic MT and EBMT. A comparison of SMT and EBMT, and a discussion of advantages and disadvantages of the paradigms is also given. I would recommend the book for MT professionals as a useful starting point containing references and established work on Arabic MT.—*Saab Mansour, RWTH Aachen University, Aachen, Germany*

Saab Mansour is a research assistant and a Ph.D. student at RWTH Aachen University since 2008. Mansour's address is Chair of Computer Science 6, RWTH Aachen University, Aachen, Germany; e-mail: `mansour@cs.rwth-aachen.de`.