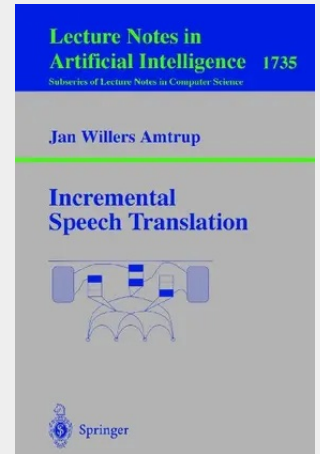


Incremental Speech Translation

Human language capabilities are based on mental procedures that are closely linked to the time domain. Listening, understanding, and reacting, on the one hand, as well as planning, formulating, and speaking, on the other, are performed in a highly overlapping manner, thus allowing inter human communication to proceed in a smooth and fluent way. Although it happens to be the natural mode of human language interaction, incremental processing is still far from becoming a common feature of today's language technology. Instead, it will certainly remain one of the big challenges for research activities in the years to come. Usually considered difficult to a degree that renders it almost intractable for practical purposes, incremental language processing has recently been attracting a steadily growing interest in the spoken language processing community. Its notorious difficulty can be attributed mainly to two reasons: Due to the inaccessibility of the right context, global optimization criteria are no longer available. This loss must be compensated for by communicating larger search spaces between system components or by introducing appropriate repair mechanisms. In any case, the complexity of the task can easily grow by an order of magnitude or even more. Incrementality is an almost useless feature as long as it remains a local property of individual system components. The advantages of incremental processing can be effective only if all the components of a producer-consumer chain consistently adhere to the same pattern of temporal behavior.

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