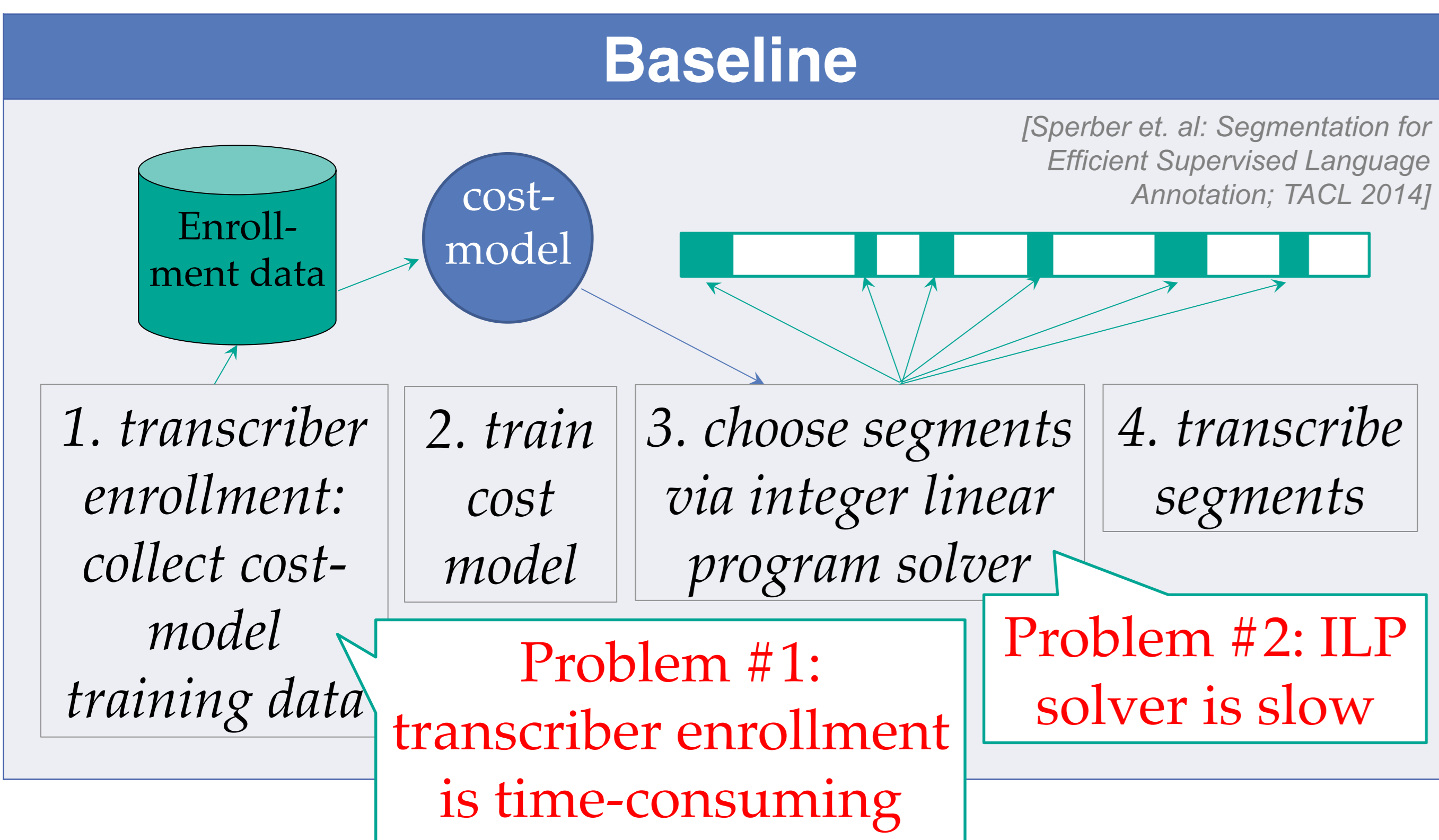
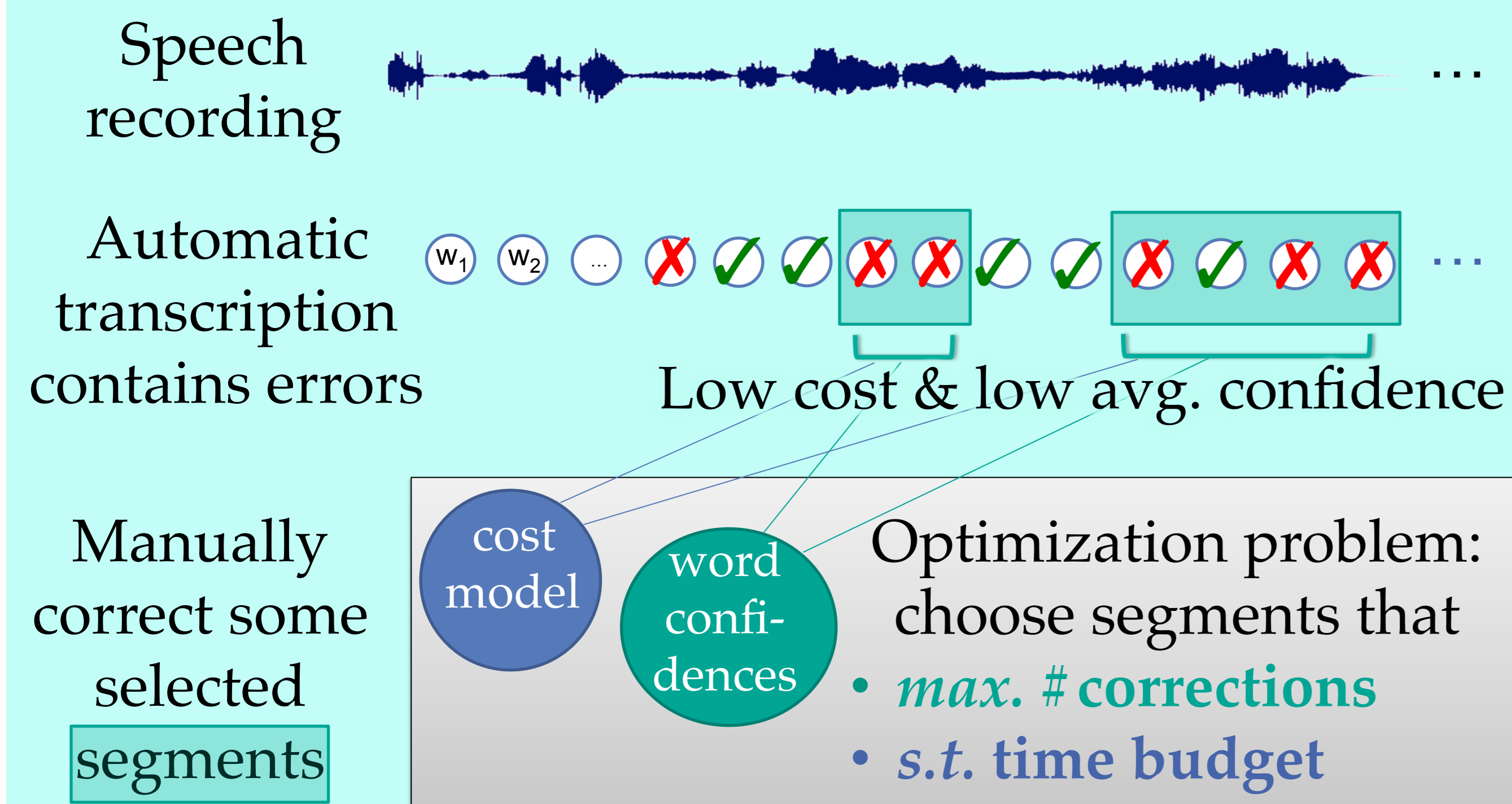


On-the-fly User Modeling for Cost-sensitive Correction of Speech Transcripts

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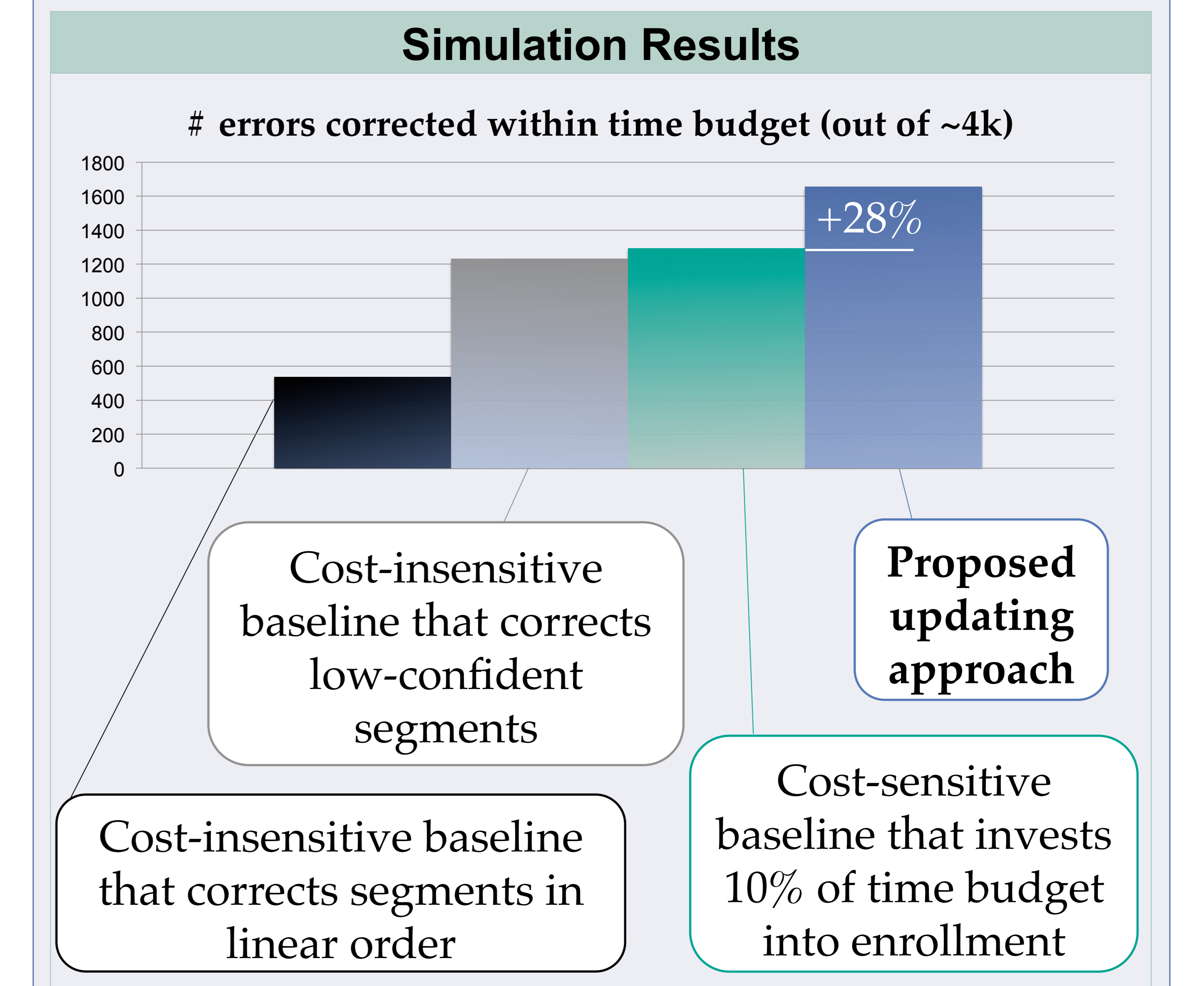
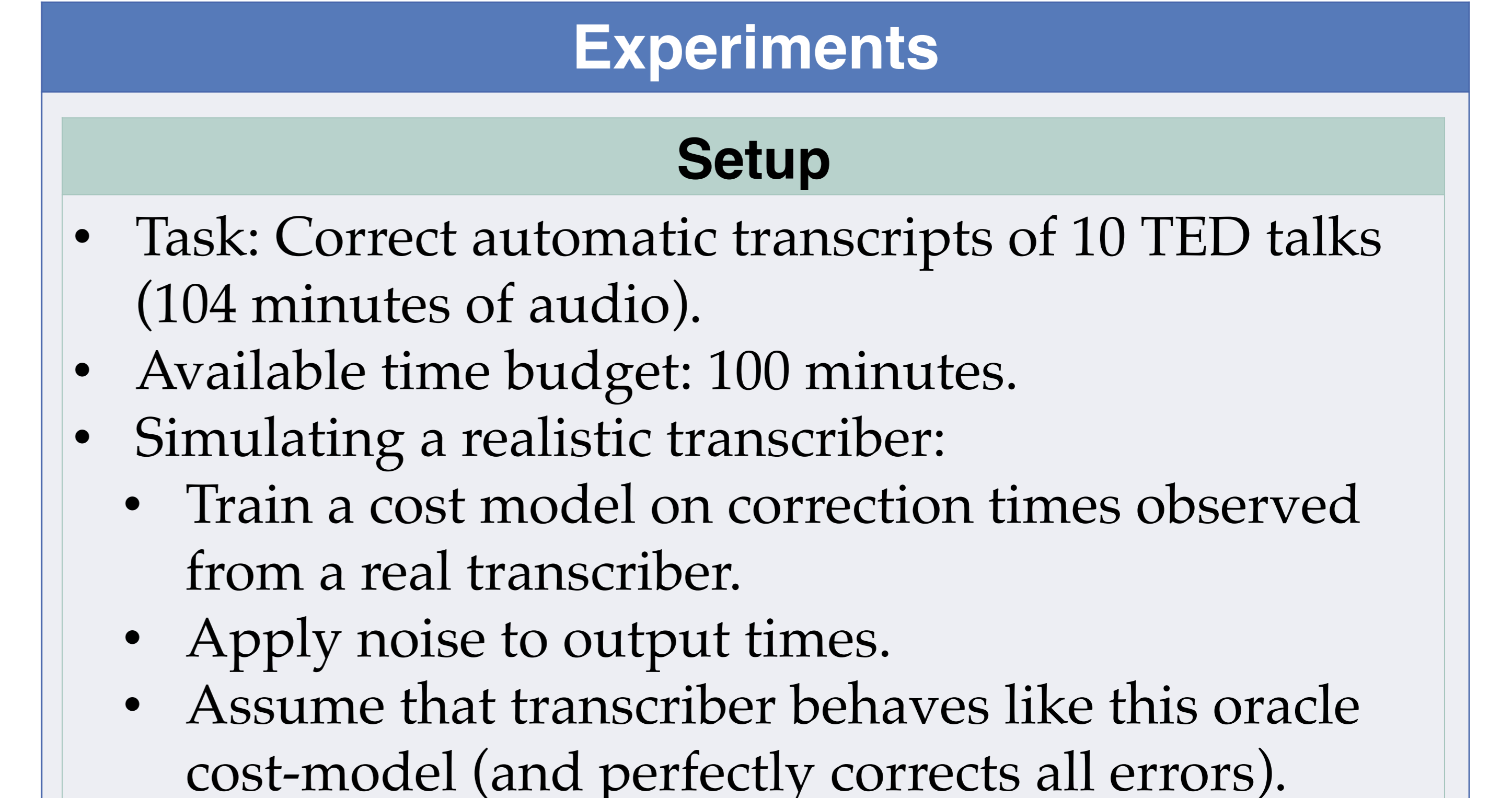
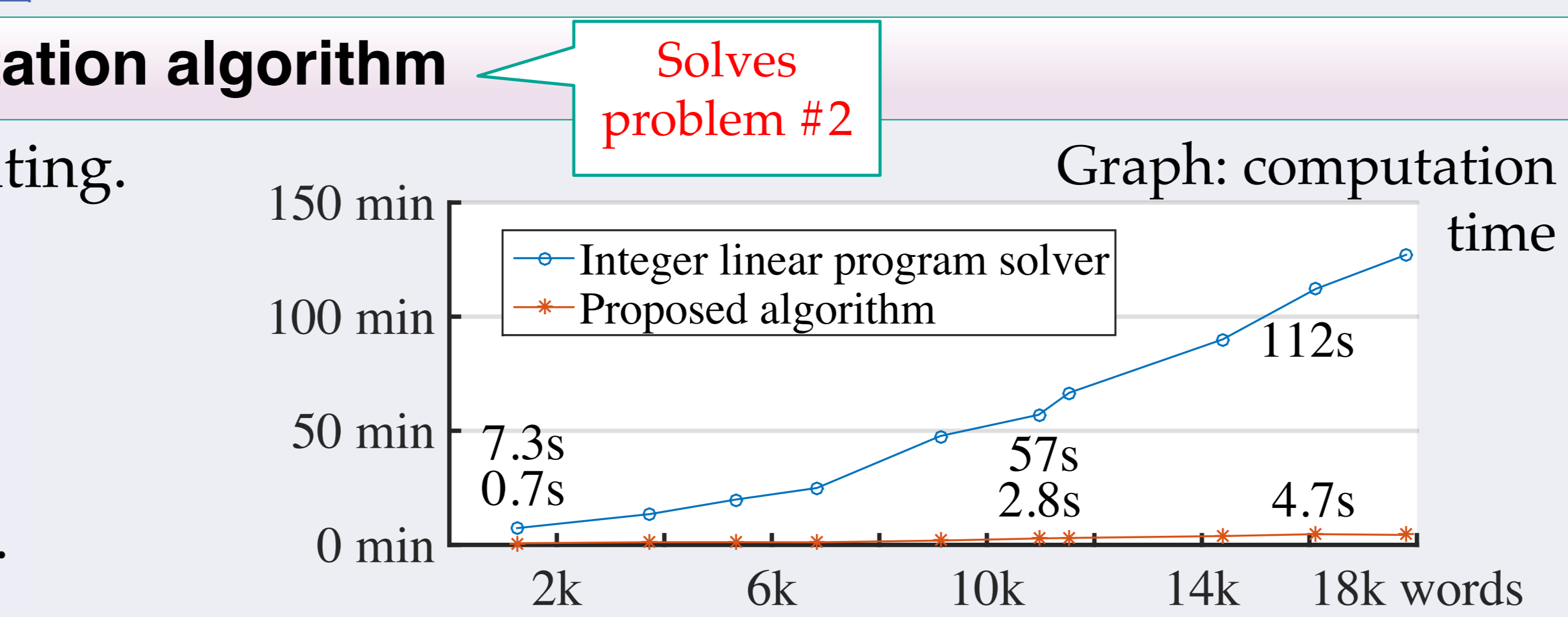
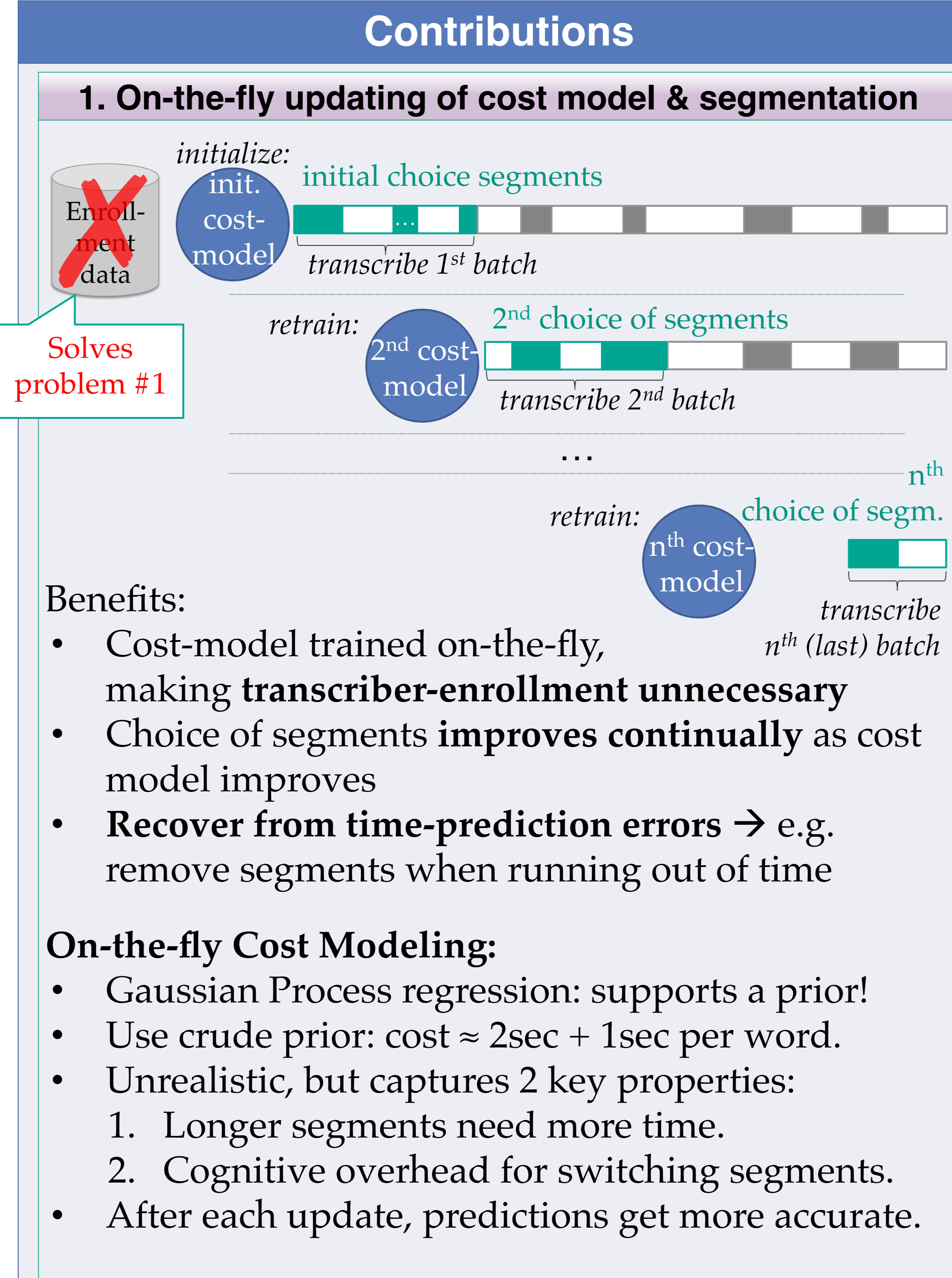
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What to do when automatic speech recognition produces too many errors, and manual transcription is too expensive?



2. Fast segmentation algorithm

- Important: don't want the transcriber to wait while updating.
- Optimal choice of segments is NP-hard! (→ competing goals of min. cost vs. max. #corrections)
- Optimize combined objective: $\lambda \# \text{corrections} - (1-\lambda) \text{cost}$ via dynamic programming.
- Binary search to find λ that comes closest to time budget.



Wrap-Up

- Updating approach improves correction efficiency by 28% over prior cost-sensitive approach.
- Get rid of time-consuming transcriber enrollment.
- Fast updates remove transcriber waiting time.