



Babel

Building Speech Recognition for Keyword Search in a New Language in a Week with Limited Training Data

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Speech Recognition and Keyword Search

Work with diverse languages from the outset

- Acquire speech data in-country for a variety of less studied languages (26)
- Study multiple languages each program period

Handle real recording conditions from the outset

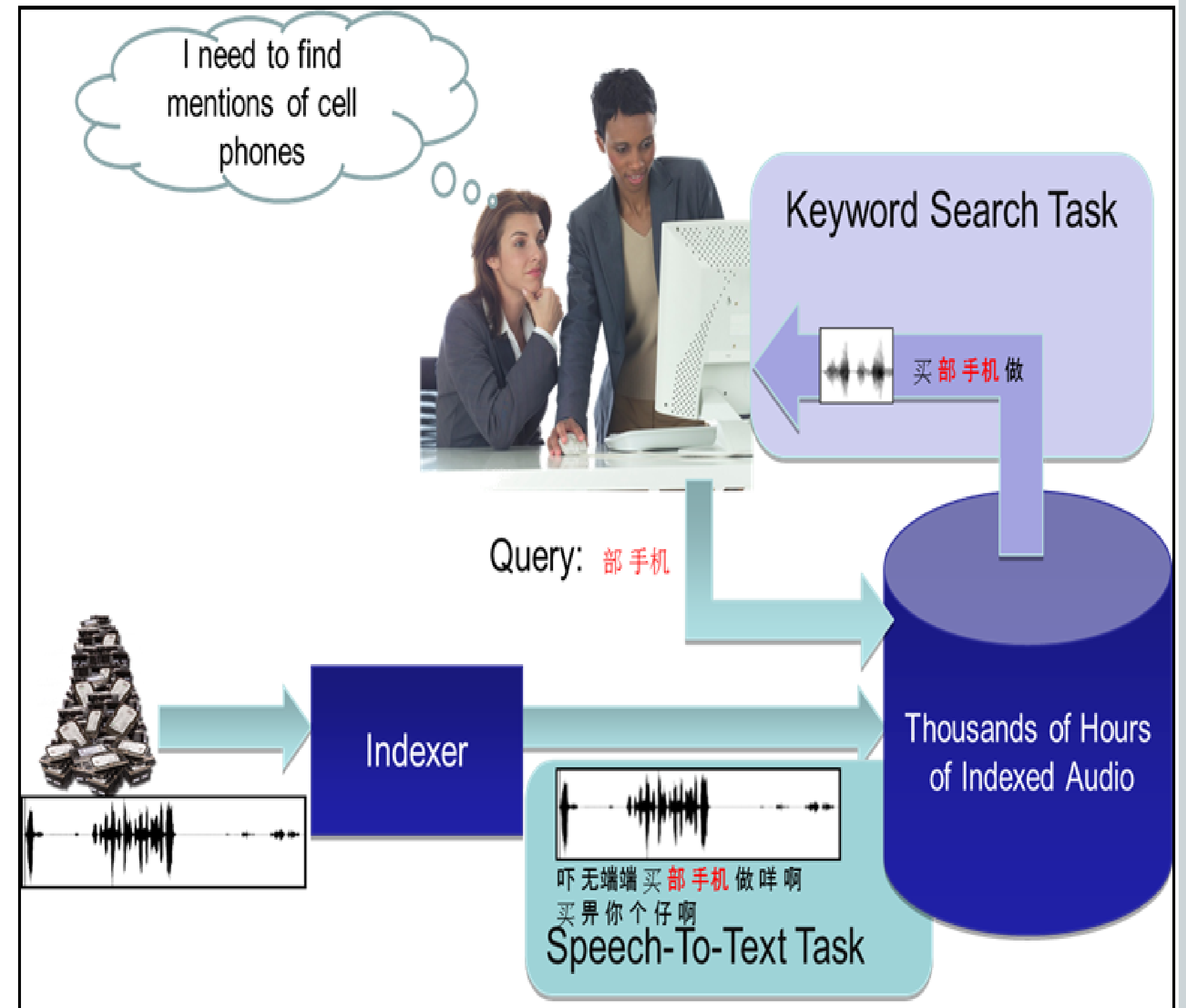
- Acquire data in a variety of conditions (e.g., in café, on the street) with different recording devices (e.g., cell phone, hands free microphone)
- Increasingly messy, real-world recordings each period

Rigorous evaluation

- Use a “surprise” language for evaluation each period
- Achieve 3X improvement over phonetic search or better

Constrain resources and system development time each period

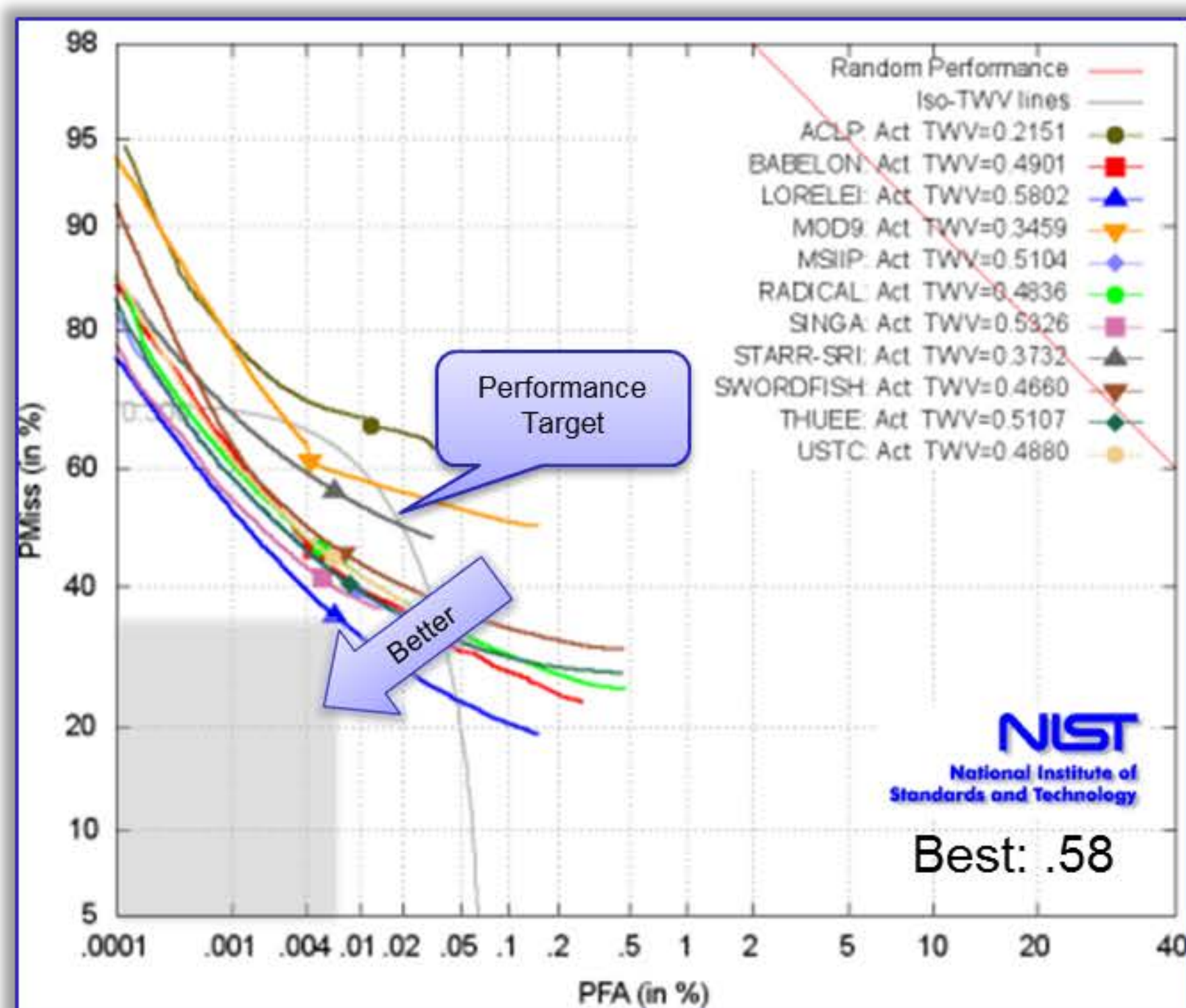
- Reduce amount of “ground truth” speech for training (80→3 hours or less)
- Reduce system development time (4 weeks → 1 week)



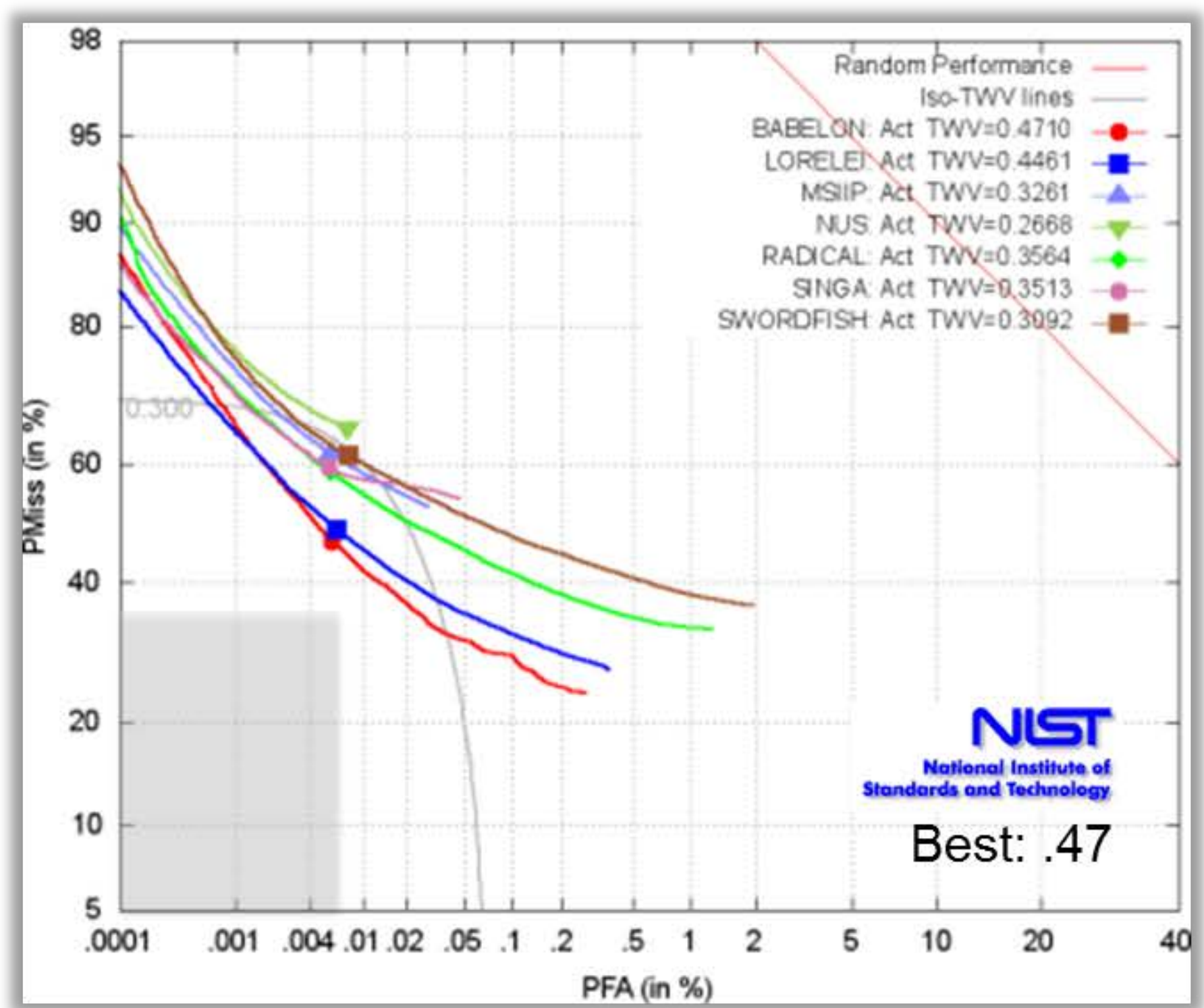
Surprise Language (Tamil) Results for Period 2

Period 2 Surprise Language Results (Tamil in 3 Weeks)

Training: 60 Hours of Transcribed Speech



Training: 10 Hours of Transcribed Speech



Access

For more information on Babel, see:

- <http://www.iarpa.gov/index.php/research-programs/babel>

For more information on the Open Surprise Language Evaluation (OpenKWS), see:

- <http://www.nist.gov/itl/iad/mig/openkws.cfm>

