

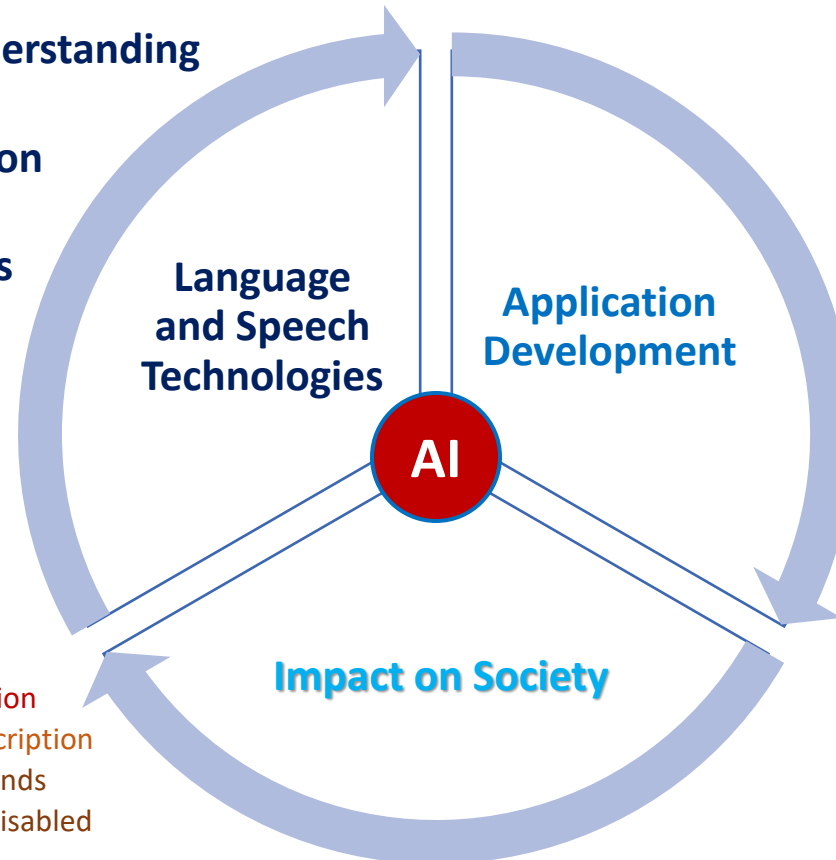
# National program for the development of language technologies for the Serbian language in the new Serbian strategy for AI

- 1) **Text processing and understanding**  
(NLP, NLU, NLG)
- 2) **Speech to text recognition**  
(STT, SLU)
- 3) **Text-to-Speech synthesis**  
(SLG, TTS)

- STT & TTS  
(Dialogue)
- Voice chatbots
  - Speech translation
  - Language learning
  - Personal assistants

- STT  
(Speaking)
- Online Dictation
  - Speech transcription
  - Voice commands
  - Aids for the disabled

- TTS  
(Listening)
- Audio-books
  - Text from websites
  - Announcements
  - Aids for the disabled



- Language translation
- Text generation
- Text classification and analysis
- Text summarization
- Recommendation of similar contents
- Sentiment analysis
- Advanced (semantic) search
- Answering questions (conversational bots)
- Virtual (voice) assistants
- Human-machine speech communication



- |                 |           |
|-----------------|-----------|
| ➤ Public sector | ➤ Trade   |
| ➤ Law           | ➤ Media   |
| ➤ Medicine      | ➤ Finance |

## Prof. Vlado Delić, PhD

- Faculty of Technical Sciences  
University of Novi Sad
- AlfaNum – Speech Technology

### Dictating medical findings:

- Faster & easier work of doctors
- More efficient healthcare system

### Applications:

- Radiology, internal medicine, gynecology, pathology

### Dictation in the field of justice:

- Customization to needs
- Acceleration of court processes

### Applications:

- Judges, lawyers, experts (hearings, submissions)

Medicta  
(STT)  
online 98%

Iurisdictiona  
(STT)  
online 98%

AI

AlfaNum  
TTS  
100%

Transcripta  
(STT)  
offline 90%

### Advantages of domestic solutions:

- Possibility of customization
- Data security
- Less technological dependence
- Client-server architecture

### Advantages of AlfaNum & FTS:

- Cooperation for 20+ years.
- A team of 10+ Ph.D.
- Speech and language resources
- Cloud and **on-premise** solutions

### Applications:

- Information, Education
- Entertainment, Aids for disabled

### Synthesis of speech from text:

- Serbian and related languages
- The best and most natural
- Cloned voice of brand announcer

### Applications:

- Telephone conversations
- Sessions, hearings, TV shows

### General Purpose Transcription:

- Whisper (fine-tuned for Serbian)
- Temporal markers
- Diarization