

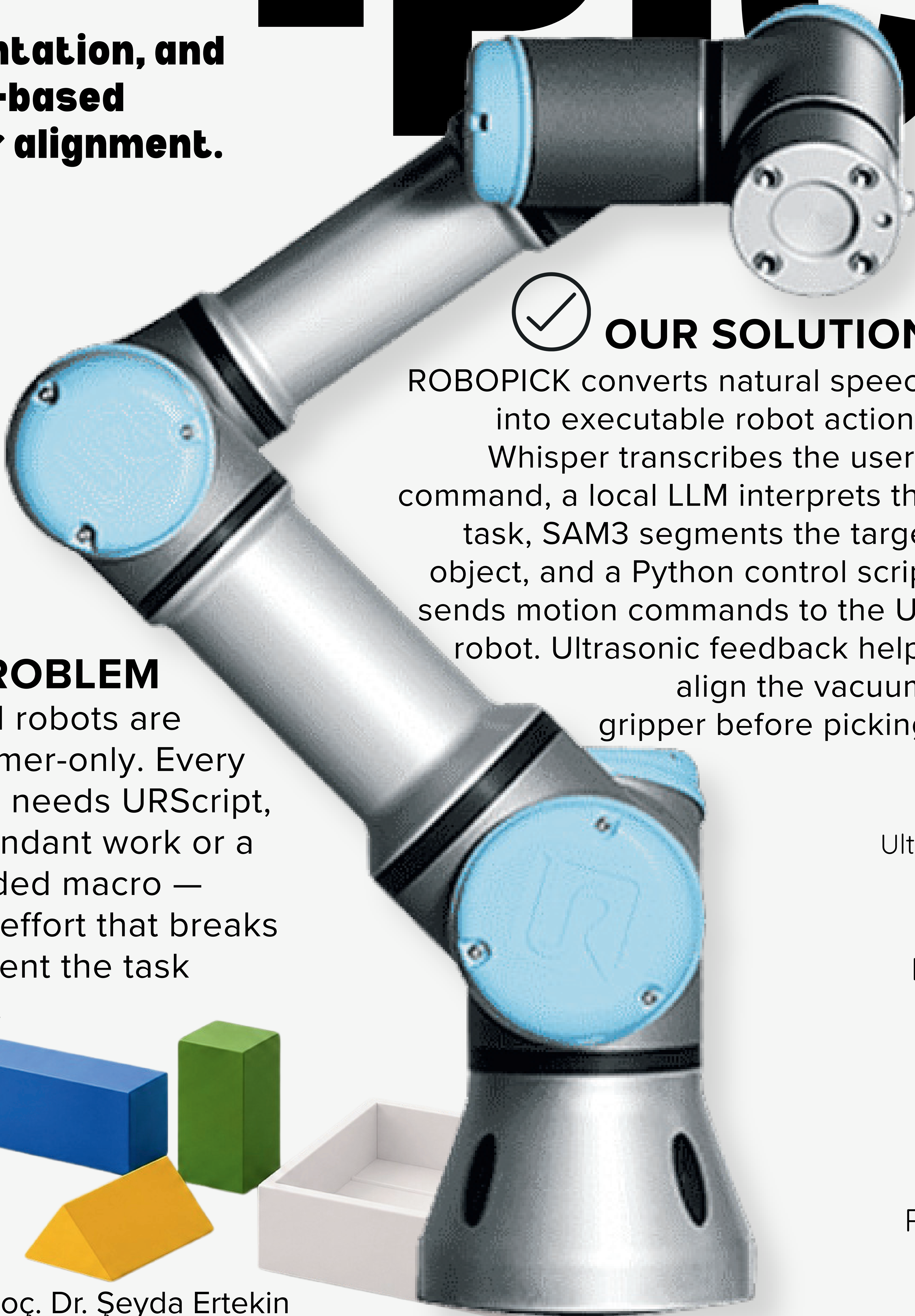
# ROBO



METU · DTX  
DIGITAL TRANSFORMATION & INNOVATION CENTRE

**Voice-guided robotic picking using local AI, vision segmentation, and sensor-based gripper alignment.**

# - PICK



## THE PROBLEM

Industrial robots are programmer-only. Every new task needs URScript, teach-pendant work or a hand-coded macro — hours of effort that breaks the moment the task changes.



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## OUR SOLUTION

ROBO PICK converts natural speech into executable robot actions. Whisper transcribes the user's command, a local LLM interprets the task, SAM3 segments the target object, and a Python control script sends motion commands to the UR robot. Ultrasonic feedback helps align the vacuum gripper before picking.

Audio

Speech-to-text  
Whisper

Qwen

Vacuum gripper

Arduino &  
Ultrasonic sensor

RGB camera

SAM3

Python script

