Master Neuroengineering
Department of Electrical and Computer Engineering
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Supplementary materials.

I can feel you sign: Bidirectional communication system between visually impaired and non-verbal individuals.

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Code availability: https://gitlab.lrz.de/katja.frey/NISE-project-1
All details about running the code files can be found in the Readme file in the GitLab repository.

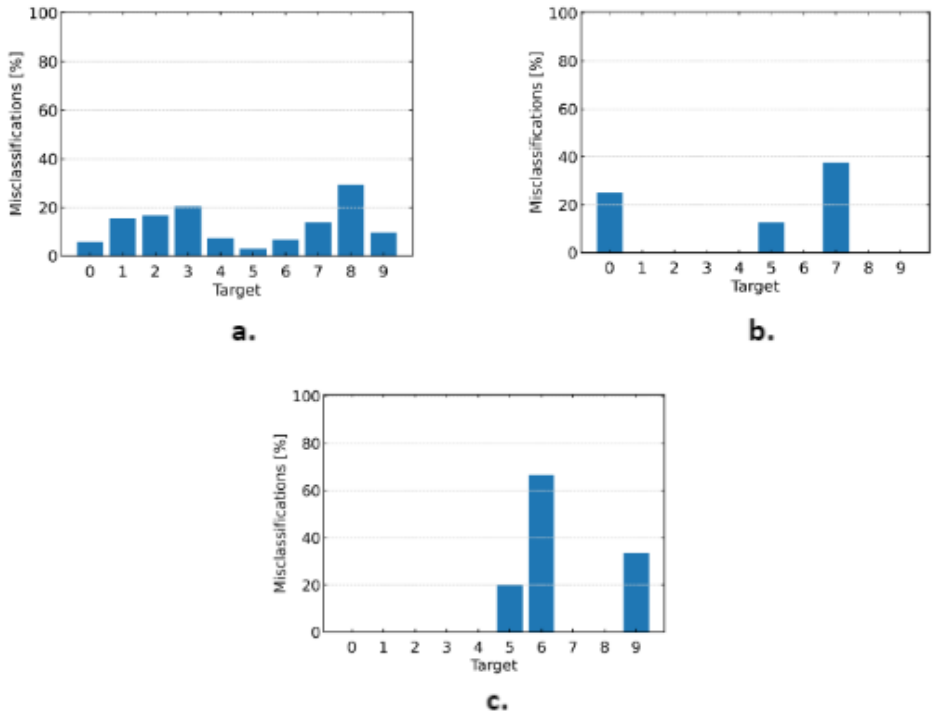
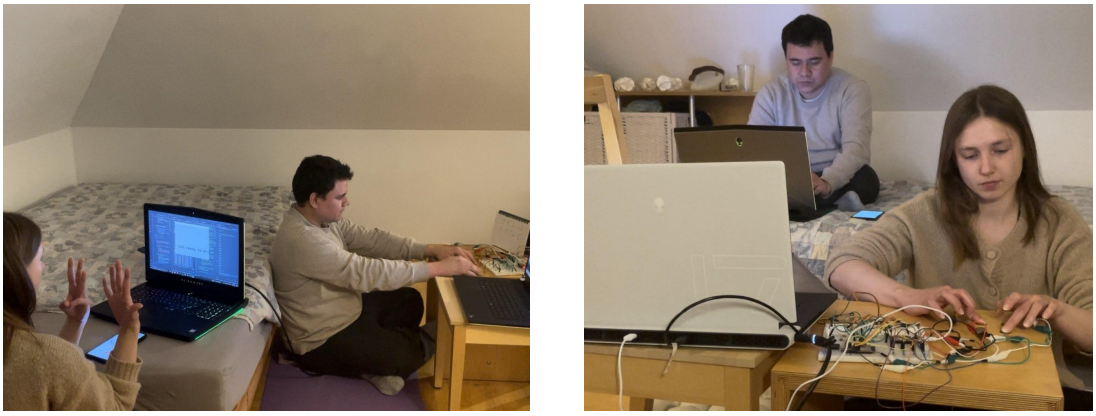


Fig. S1 Misclassification rate for each number from 0 to 9 in several experiments. **a.** Misclassification rate in MediaPipe subsystem using number of frames equal to 15. **b.** Misclassification rate in VTM-based subsystem with vibration duration equal to 750 ms. **c.** Misclassification rate in FSR-based subsystem with number of frames equal to 10 and voltage threshold equal to 250 mV.



a. **b.**

Fig. S2 Photos of experimental setup: subsystem characterization experiments. **a.** Setup of MediaPipe-to-VTM subsystem experiment: user 1 is signing a number using MediaPipe. The Braille encoding of the number is transmitted to vibrotactile motors via UDP protocol. User 2 feels vibrations and decodes the Braille pattern into a number. **b**. Setup of FSR-to-MediaPipe subsystem experiment: user 1 presses force sensitive resistors encoding a number they intend to send using Braille code. After being decoded into a number at the microcontroller, the number is transmitted to the laptop of user 2 via UDP protocol.