

# Komunikācijas spēju uzlabošana ar MI un datu aizsardzība atbilstoši GDPR

**Evalds Urtans**

**Dr. kand.**

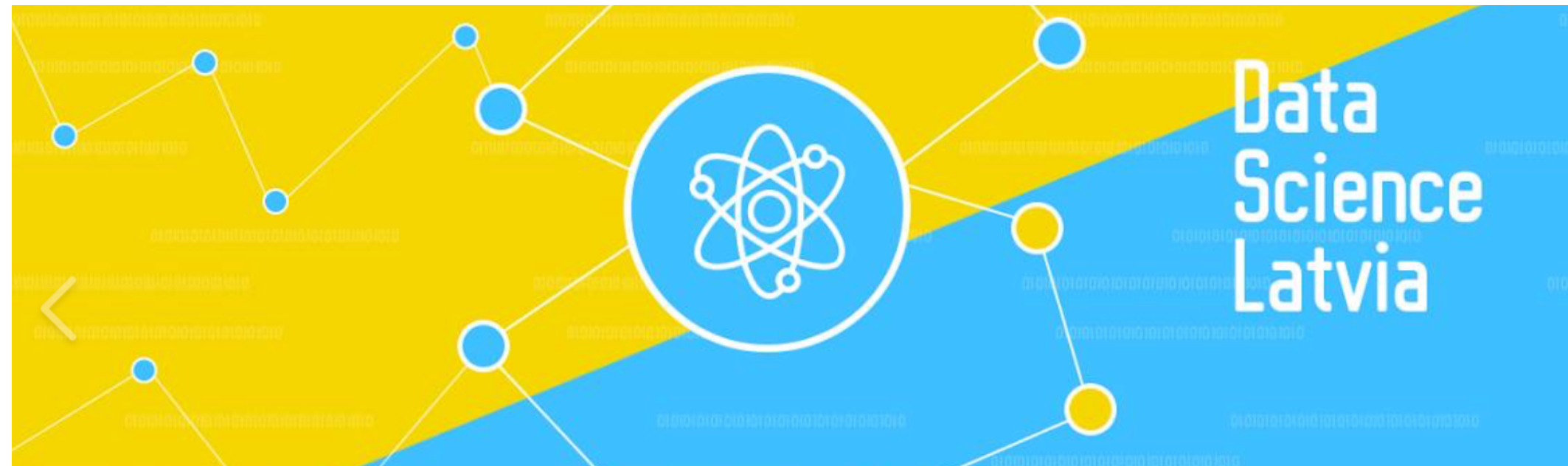


**asya**



10+ atvērtā koda projekti un roboti  
[www.yellowrobot.xyz](http://www.yellowrobot.xyz) / YouTube

# Pētnieku komūna "Data Science Latvia"



# Komanda

- MI studenti - maģistri un doktori (RTU, VeA)
- Dizaina eksperti (Asketic, TechChill)
- Investīcijas 0.5mil EUR



# Kas ir MI?

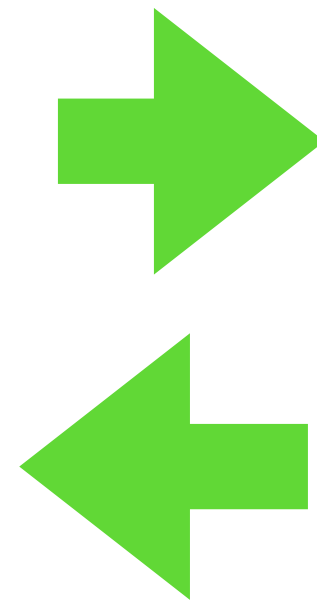
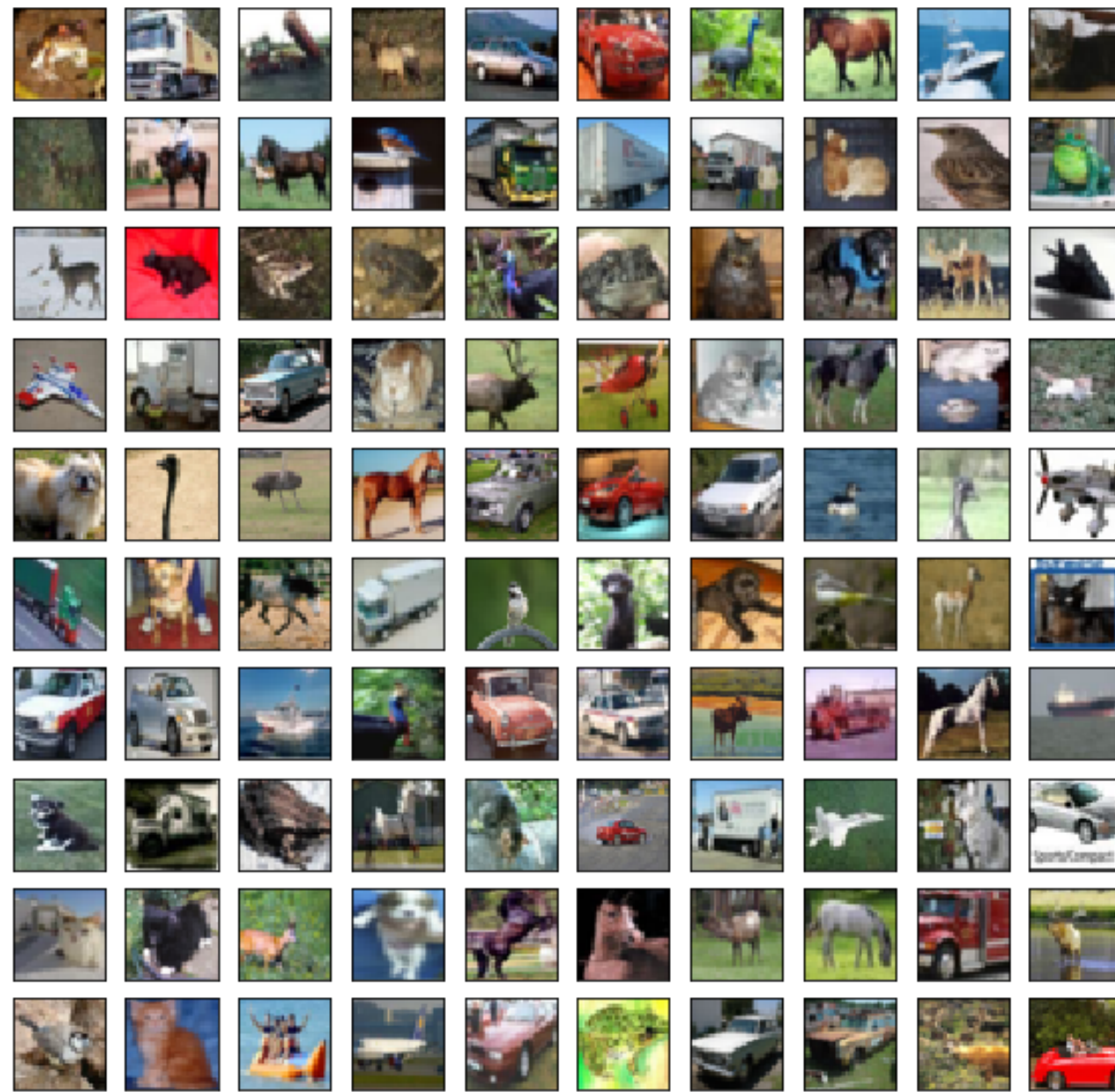


# Kas ir MI?

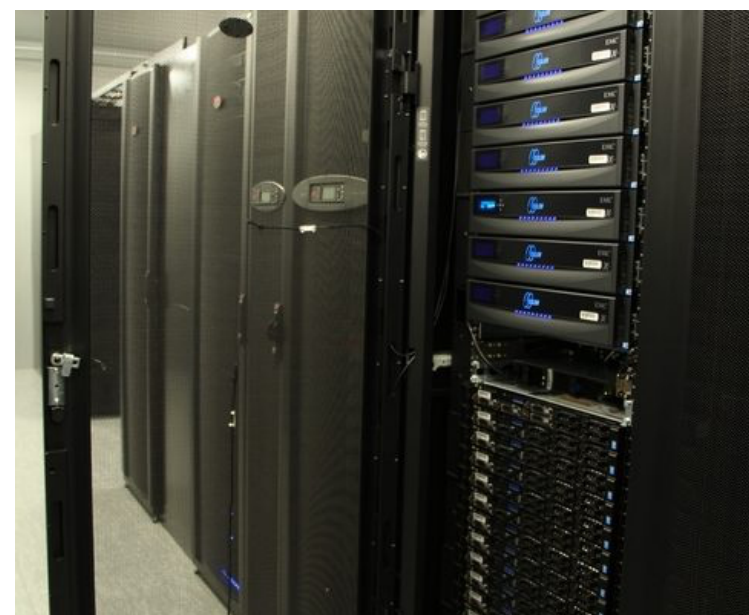
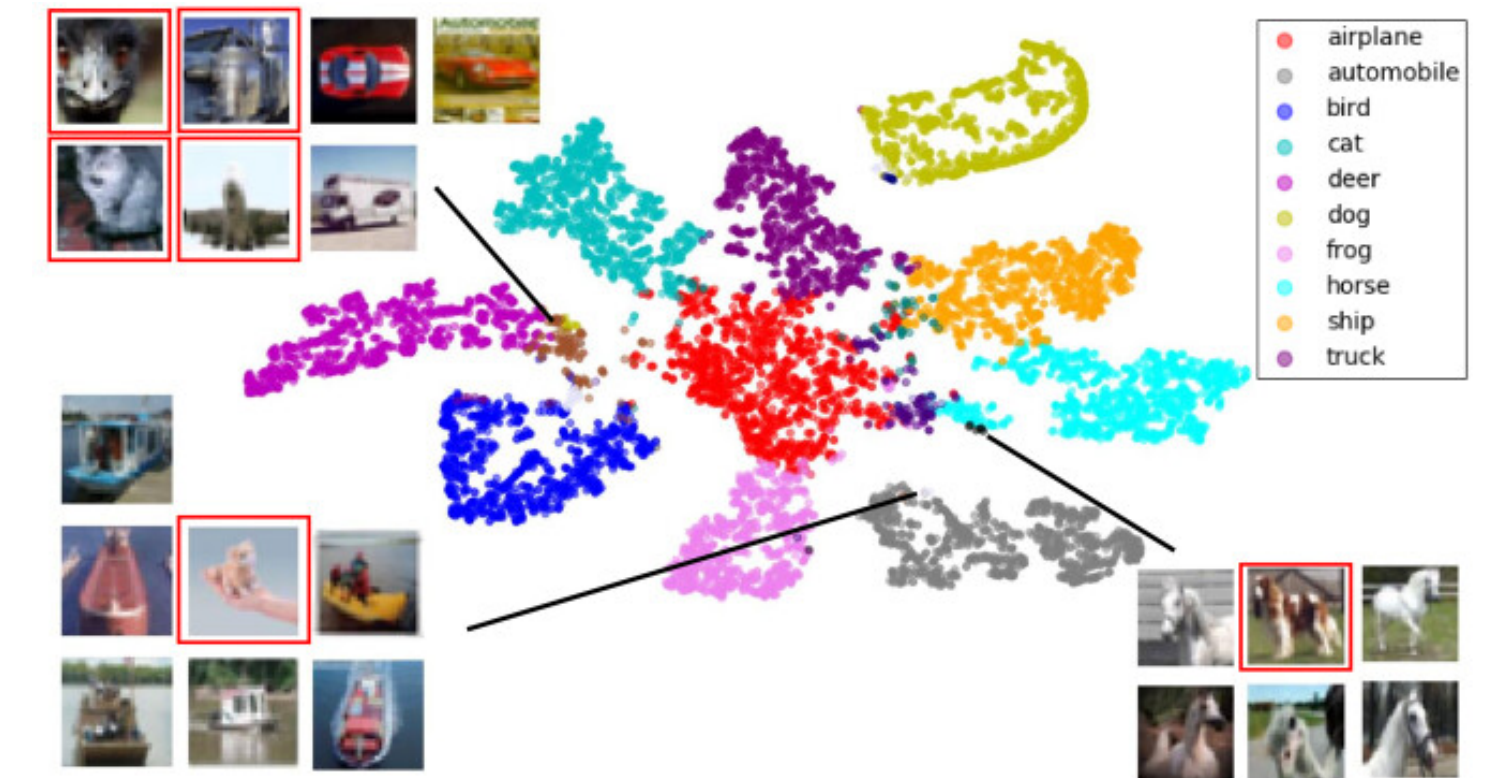
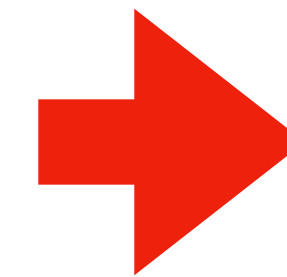


$$\begin{aligned}i_t &= \sigma(W_i * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_i) \\f_t &= \sigma(W_f * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_f) \\e_{t,z} &= V_e \cdot \tanh(W_e * [\mathcal{X}_{t,z}, \mathcal{H}_{t-1}] + b_e) \\ \alpha_{t,z} &= \frac{\exp(e_{t,z})}{\sum_{j=1}^{\tau} \exp(e_{t,j})} \\ p_t &= \sum_{j=1}^{\tau} \alpha_{t,j} \tilde{\mathcal{X}}_{t,j} \\ n_t &= \sigma(W_n * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_n) \\ g_t &= \tanh(W_g * [p_t, \mathcal{H}_{t-1}] + b_g) \\ \mathcal{C}_t &= f_t \circ \mathcal{C}_{t-1} + i_t \circ a_t + n_t \circ g_t \\ a_t &= \tanh(W_a * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_a) \\ o_t &= \sigma(W_o * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_o) \\ \mathcal{H}_t &= o_t \circ \tanh(\mathcal{C}_t)\end{aligned}$$

# Kas ir MI?

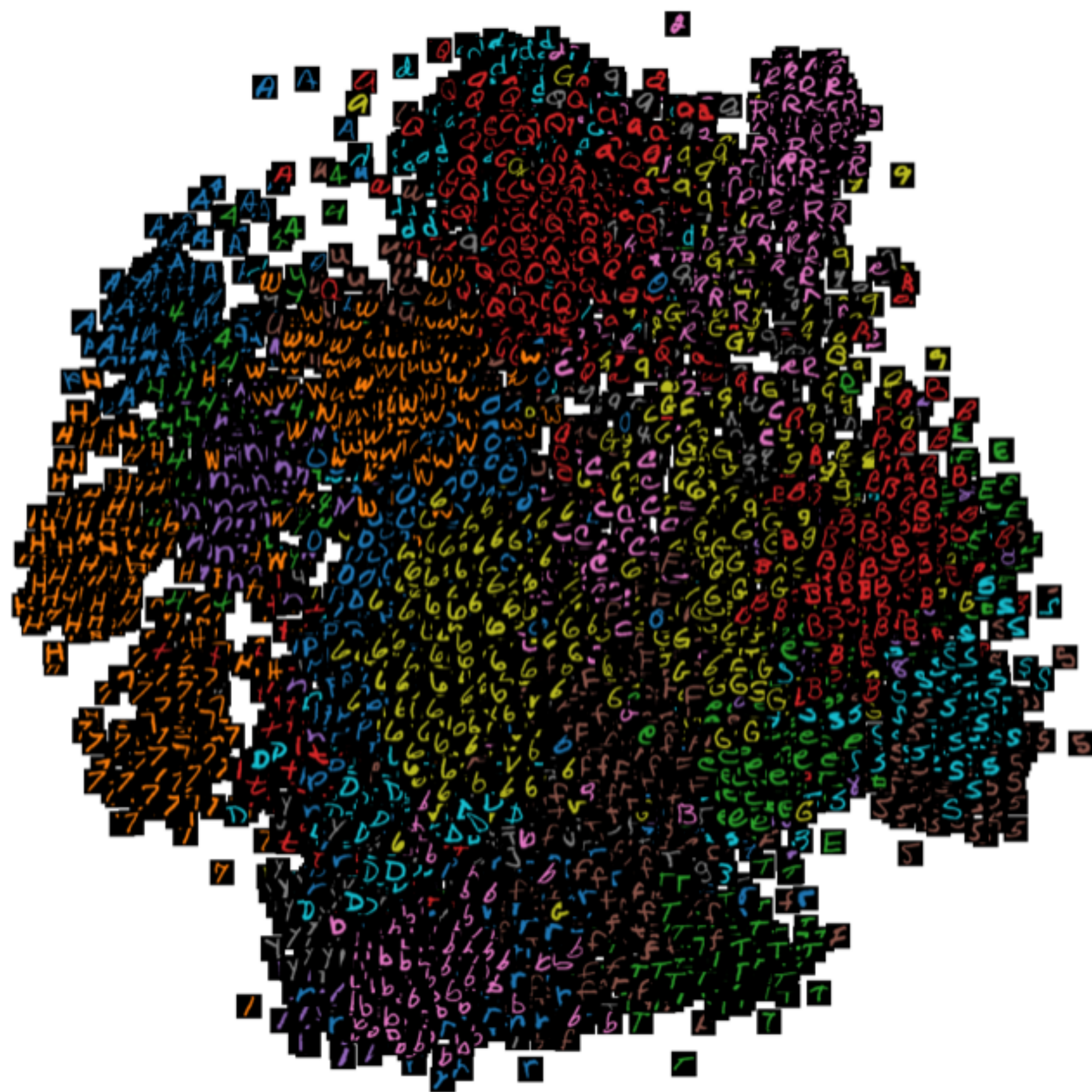


$$\begin{aligned}
 i_t &= \sigma(W_i * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_i) \\
 f_t &= \sigma(W_f * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_f) \\
 e_{t,z} &= V_e \cdot \tanh(W_e * [\mathcal{X}_{t,z}, \mathcal{H}_{t-1}] + b_e) \\
 \alpha_{t,z} &= \frac{\exp(e_{t,z})}{\sum_{j=1}^{\tau} \exp(e_{t,j})} \\
 p_t &= \sum_{j=1}^{\tau} \alpha_{t,j} \tilde{\mathcal{X}}_{t,j} \\
 n_t &= \sigma(W_n * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_n) \\
 g_t &= \tanh(W_g * [p_t, \mathcal{H}_{t-1}] + b_g) \\
 \mathcal{C}_t &= f_t \circ \mathcal{C}_{t-1} + i_t \circ a_t + n_t \circ g_t \\
 a_t &= \tanh(W_a * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_a) \\
 o_t &= \sigma(W_o * [\mathcal{X}_t, \mathcal{H}_{t-1}] + b_o) \\
 \mathcal{H}_t &= o_t \circ \tanh(\mathcal{C}_t)
 \end{aligned}$$



# VoiceID un FaceID modeļi

## Apmācības kopa

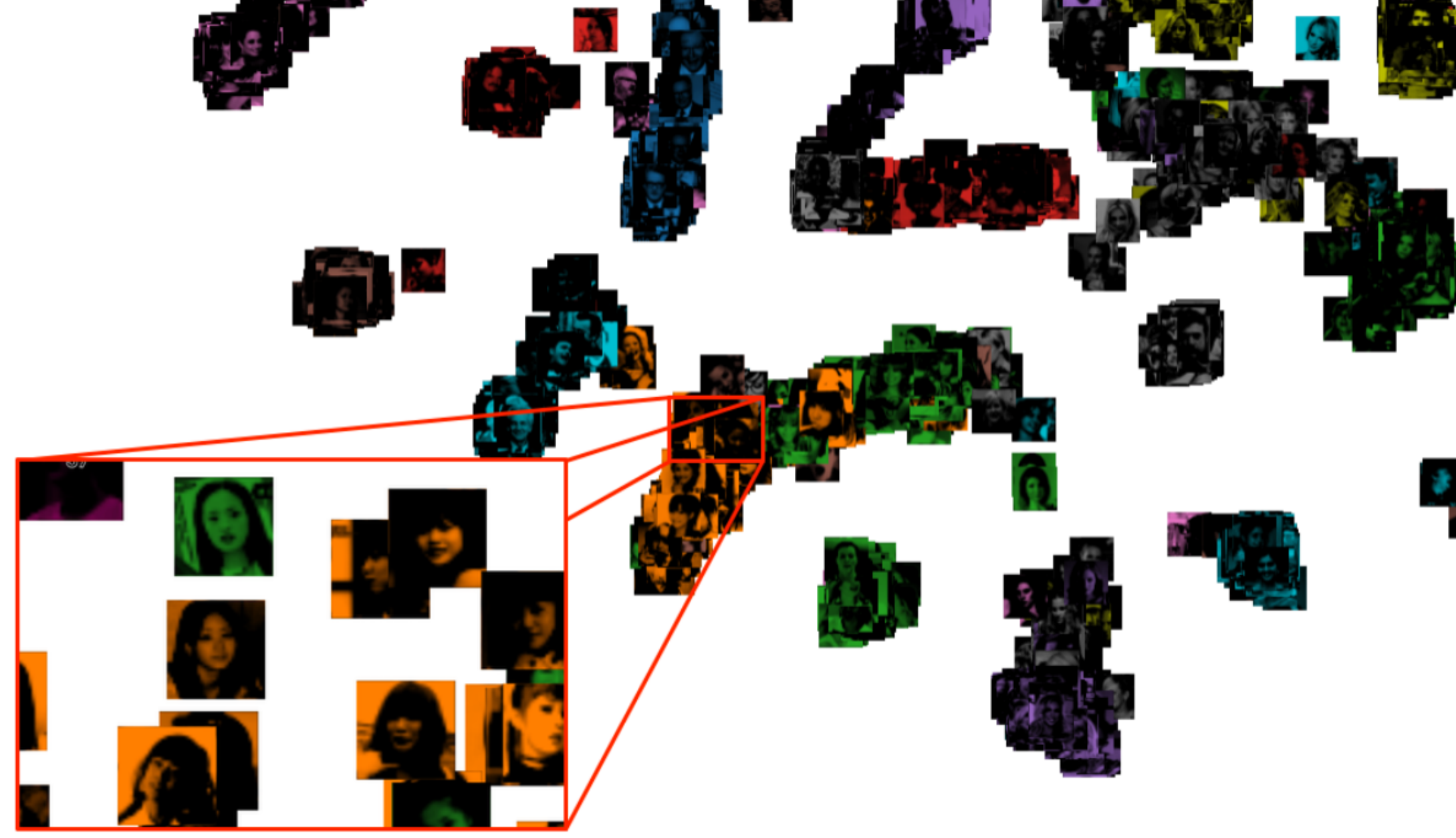
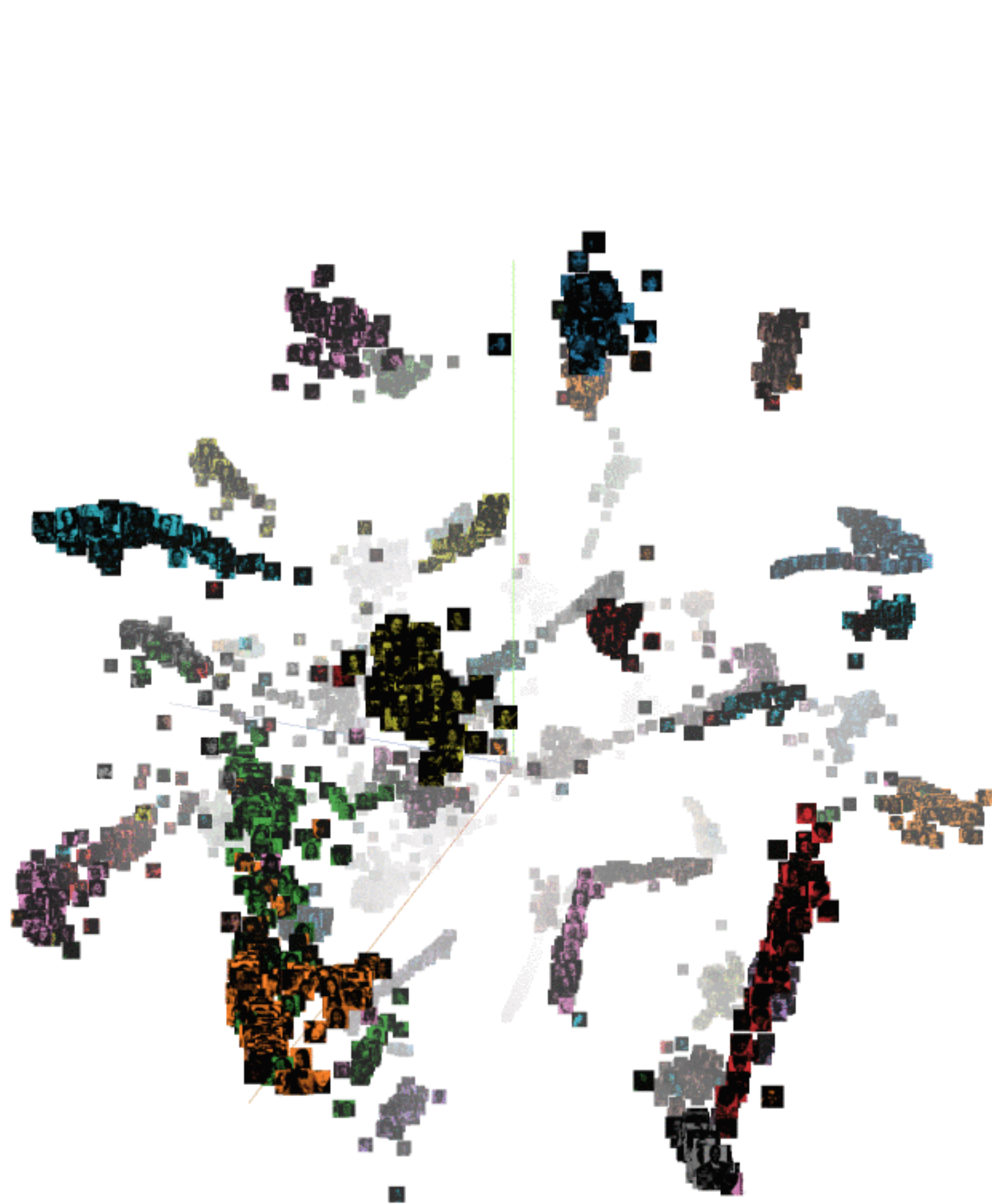


## Testa kopa



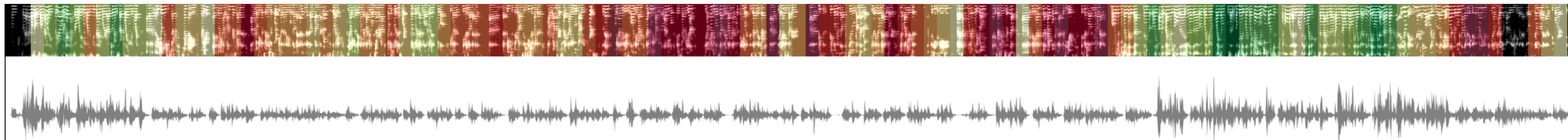
Exponential triplet loss, ICCDA 2020





Exponential triplet loss, ICCDA 2020

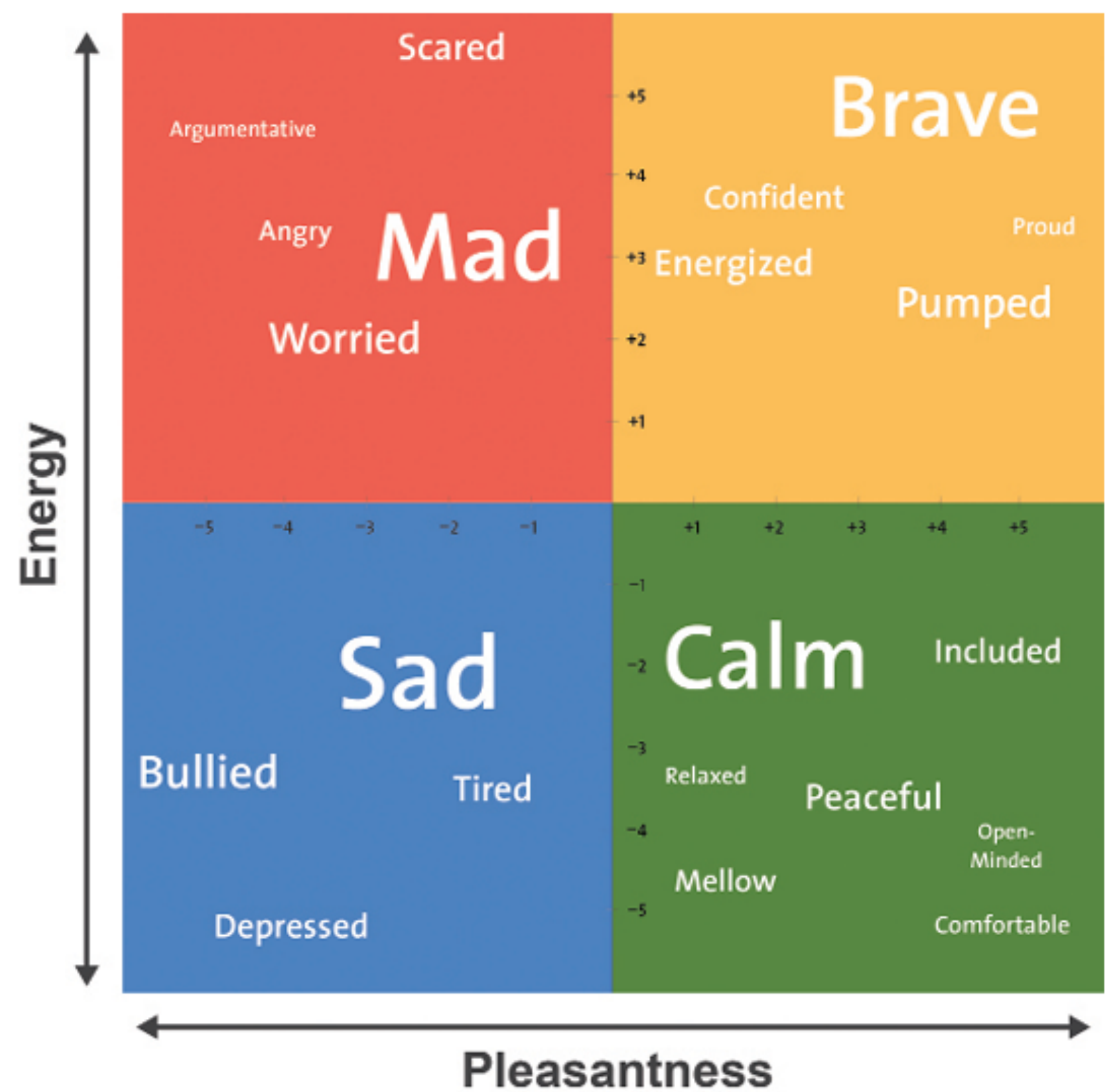
# asya



\* Green frames represent target speaker. Red frames are furthest away from target speaker.

▶ PLAY ■ STOP

# Emociju klasifikācija , izmantojot balss toni



## Happiness

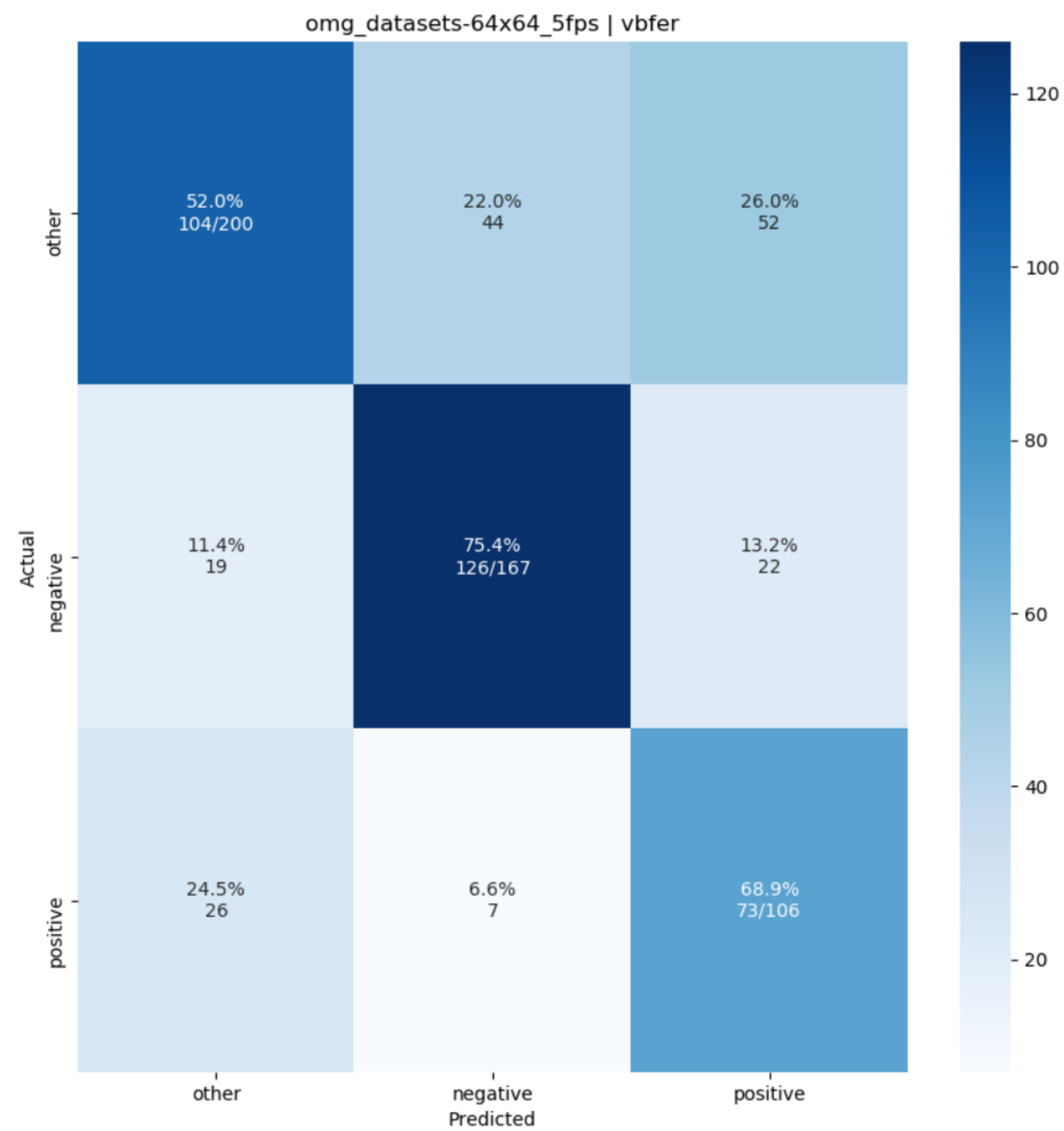


## Anger

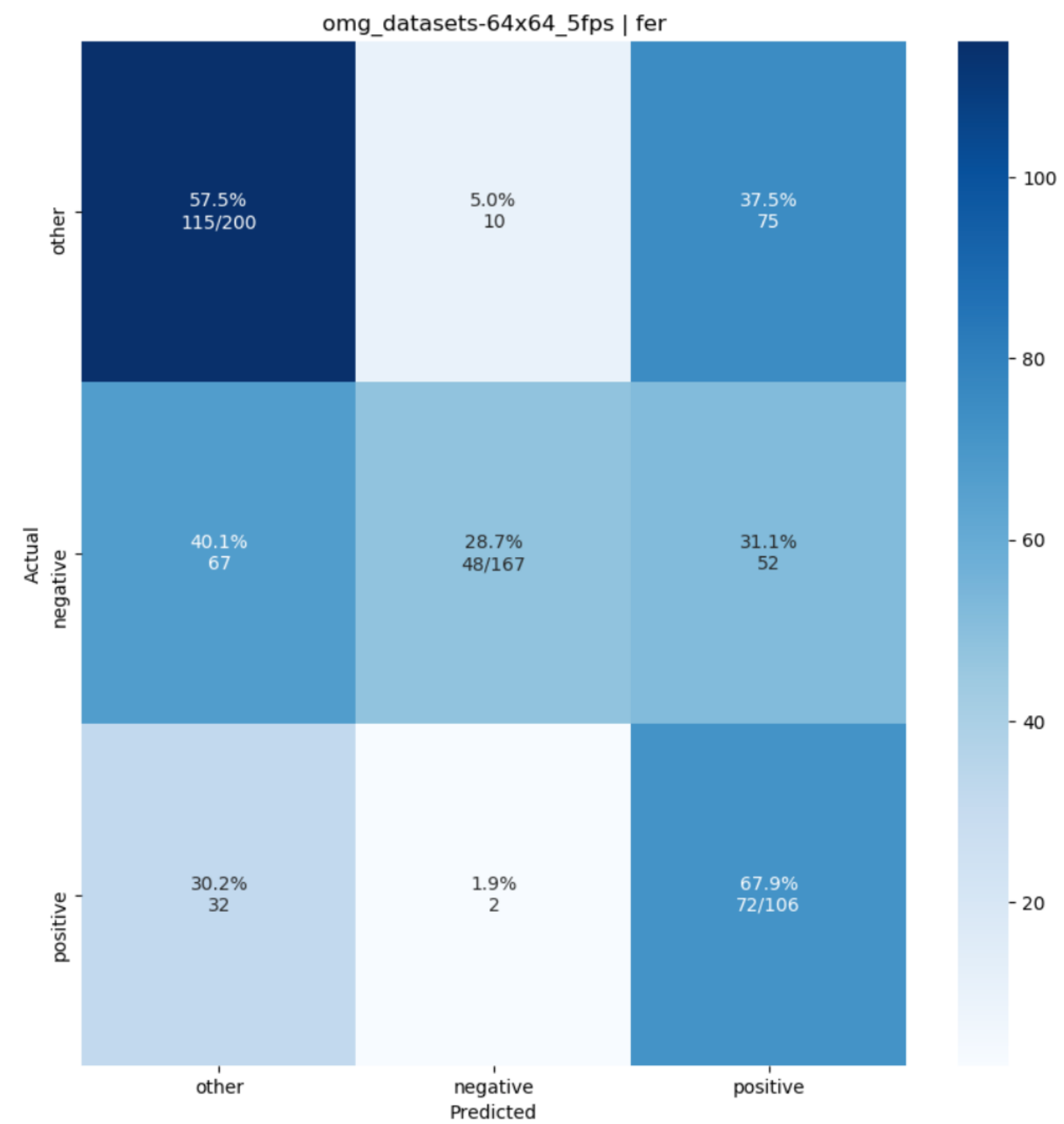


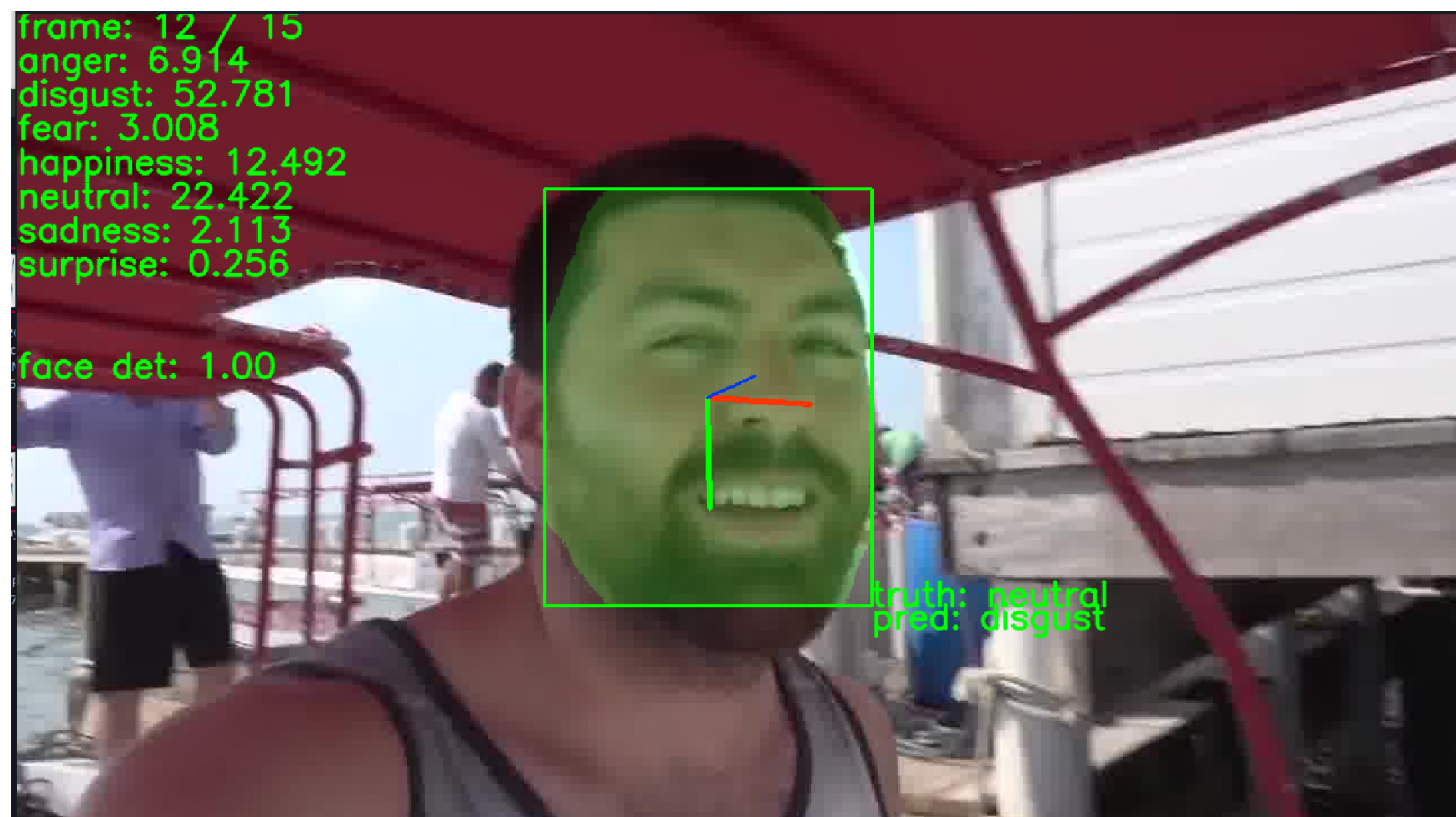
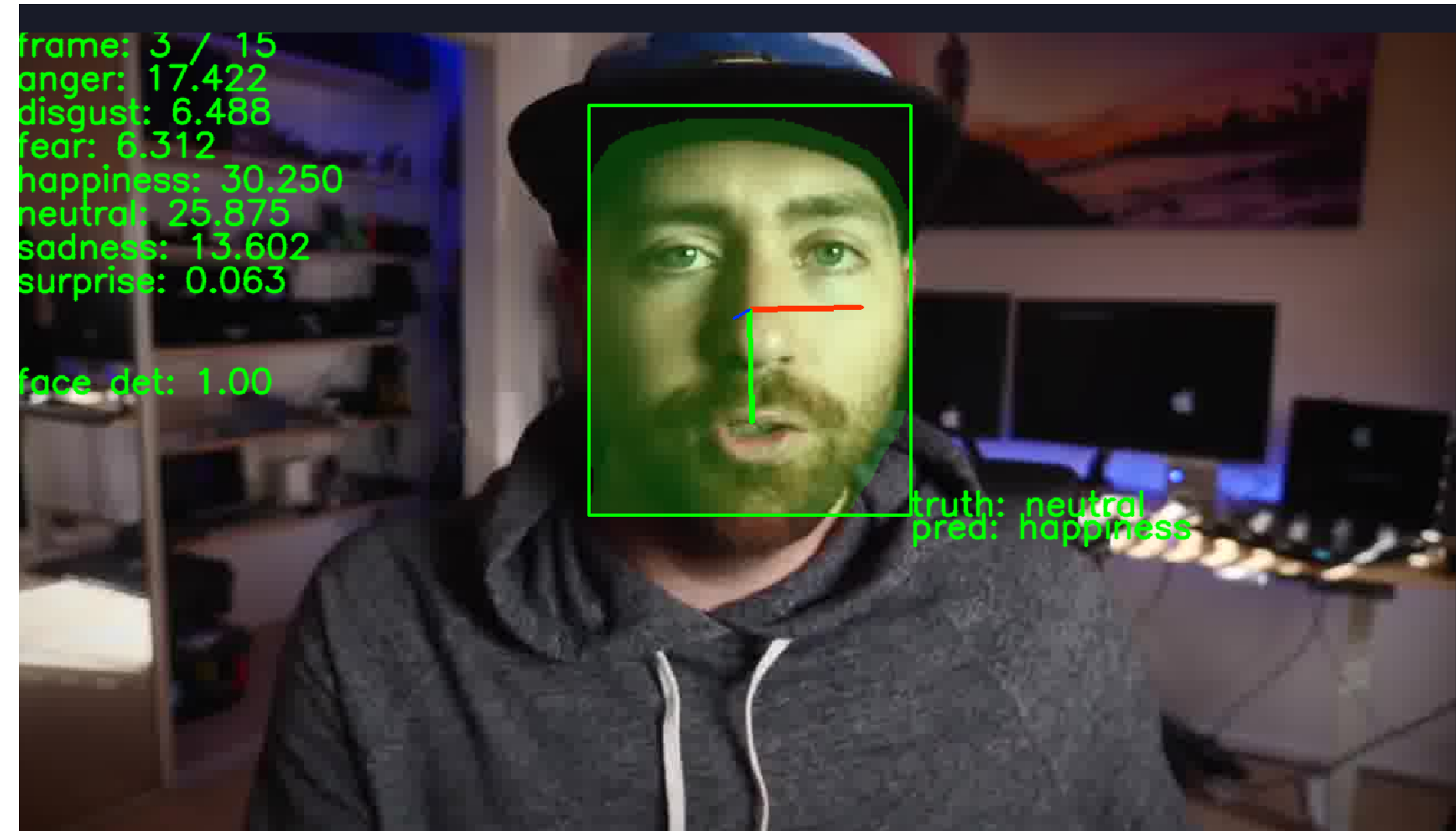
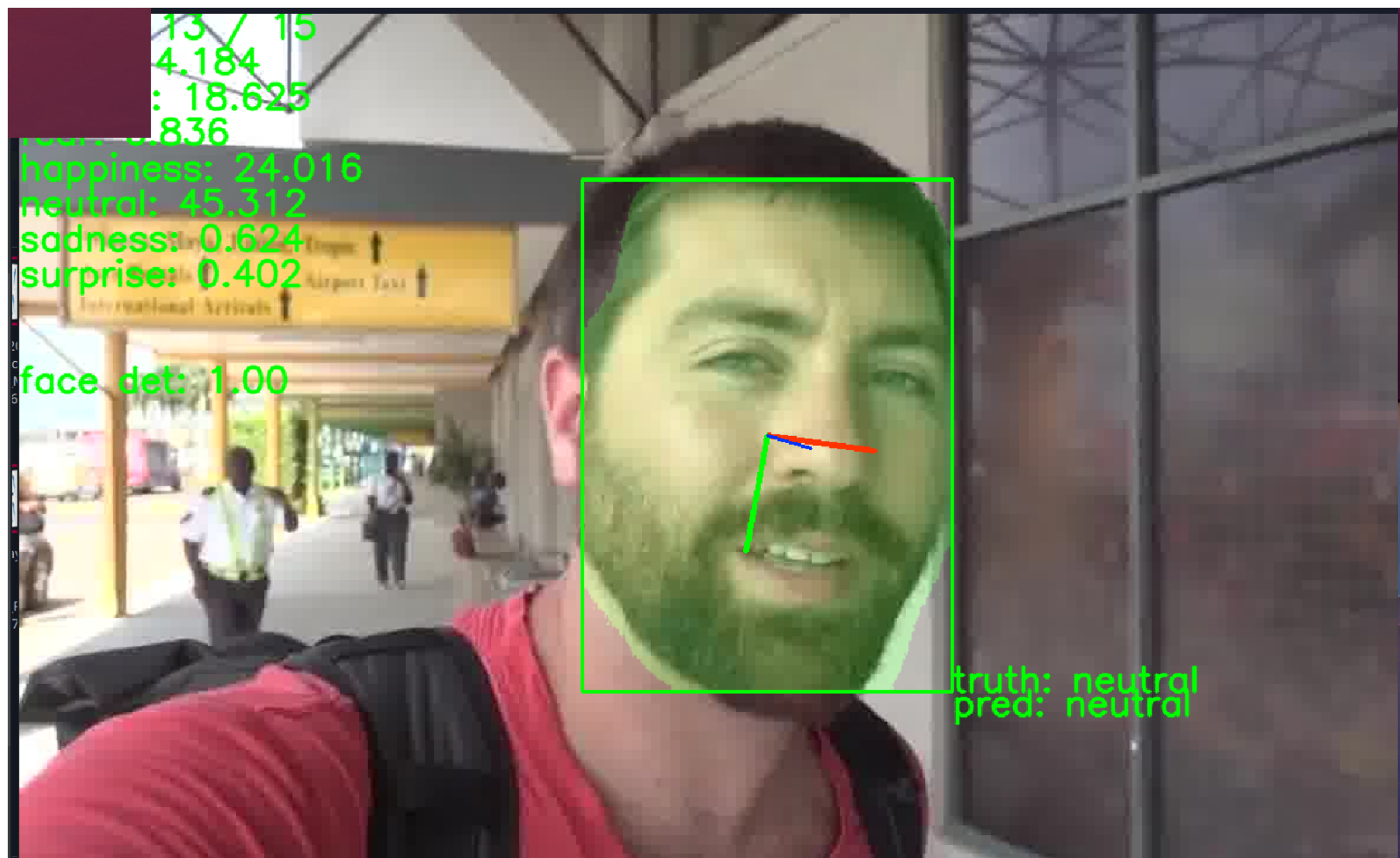
# Emociju modeļi

## Mūsu modelis



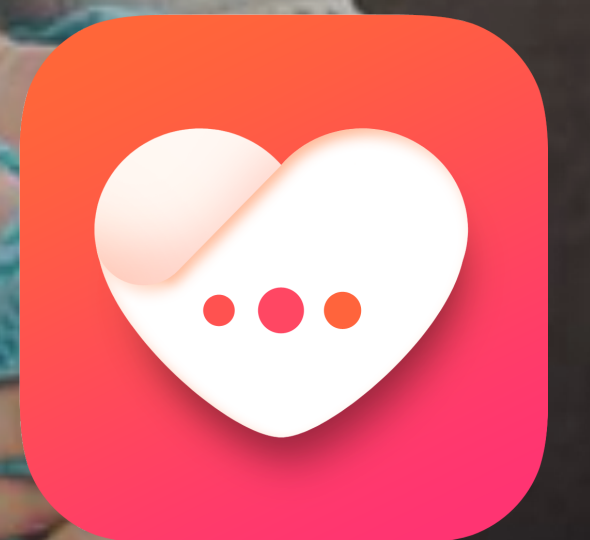
## Azure modelis



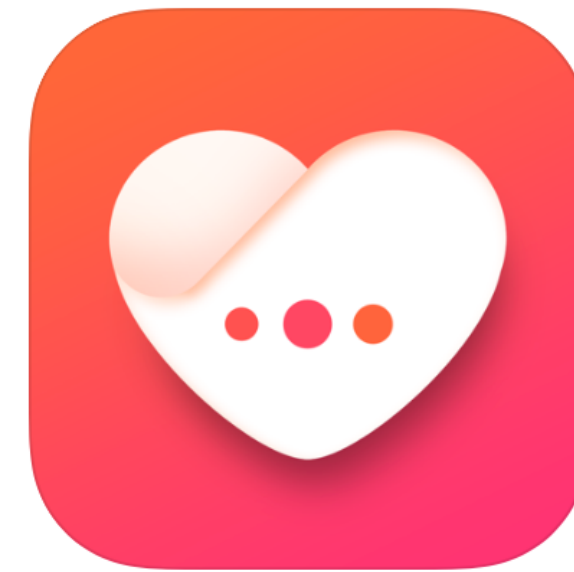
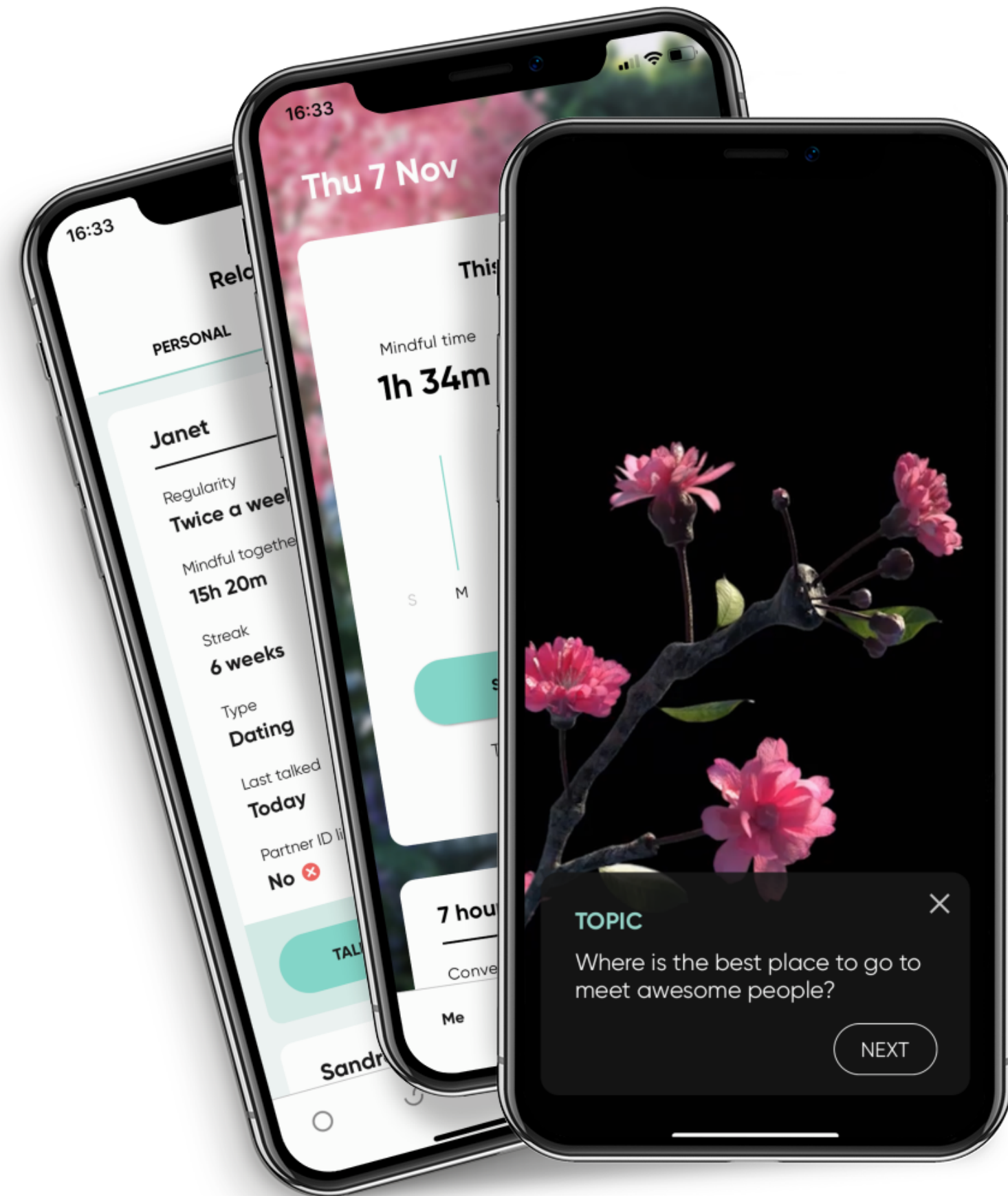


**67% pāru samazinās  
attiecību kvalitāte  
pirmos 3 gadus  
pēc jaundzimuša  
bērna.**

Dr. J.M Gottman, 2005



# Lietotne "Closer to You"



## Closer to you: Couple's game 17+

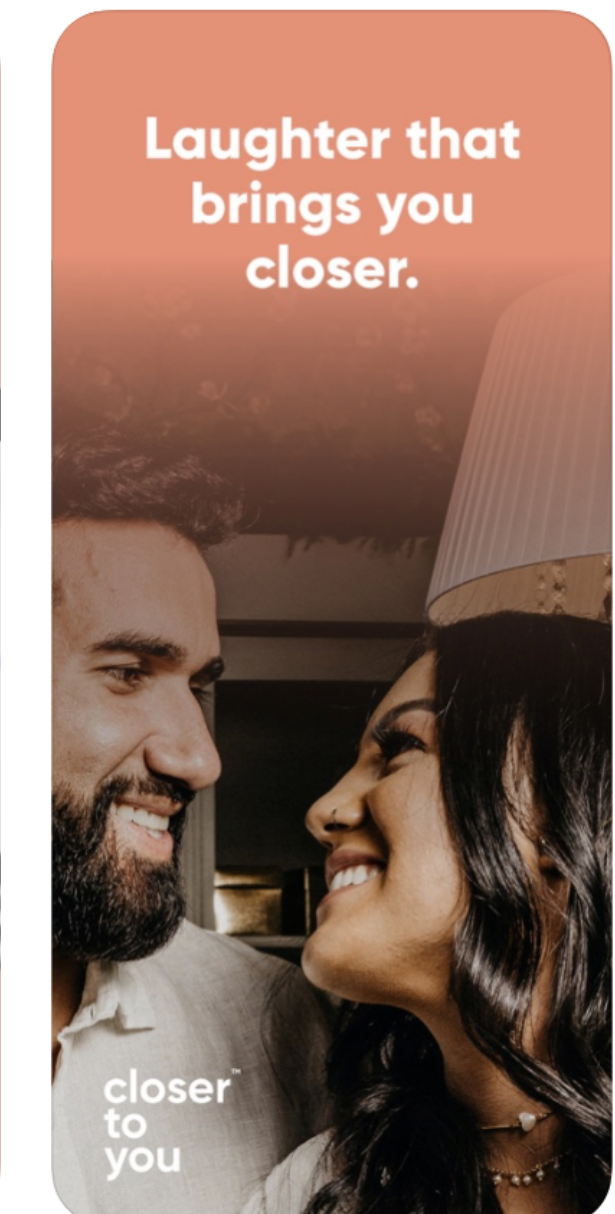
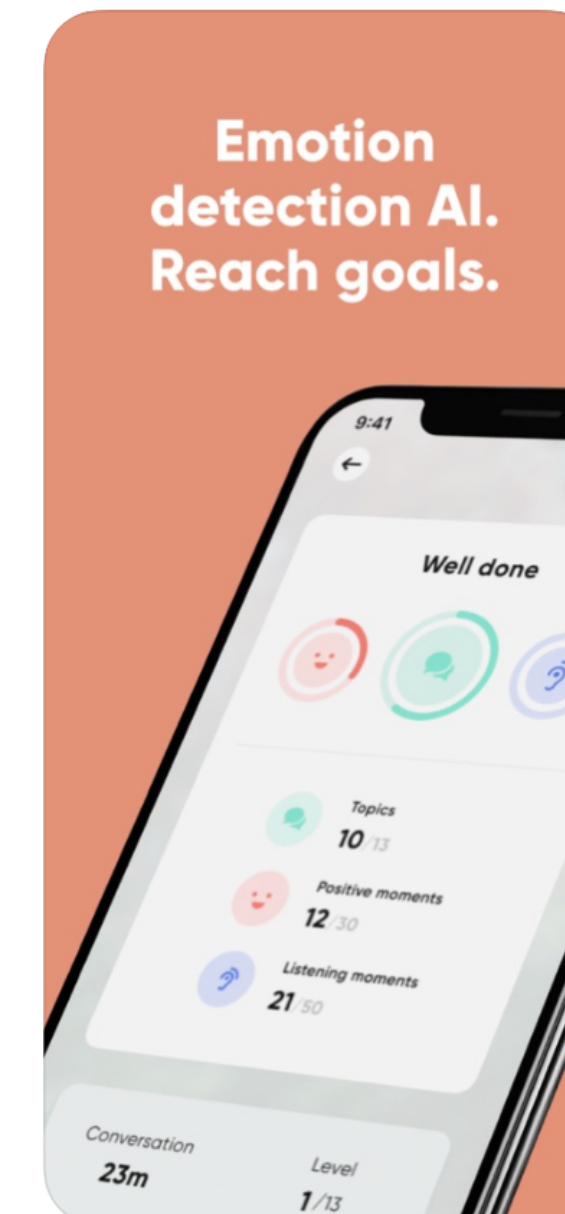
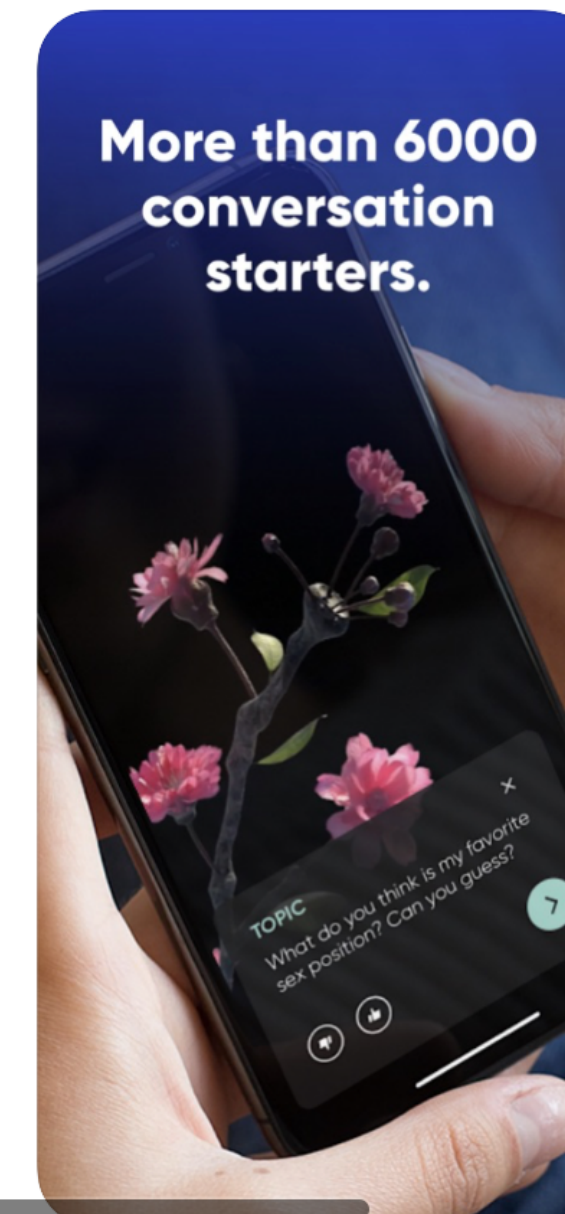
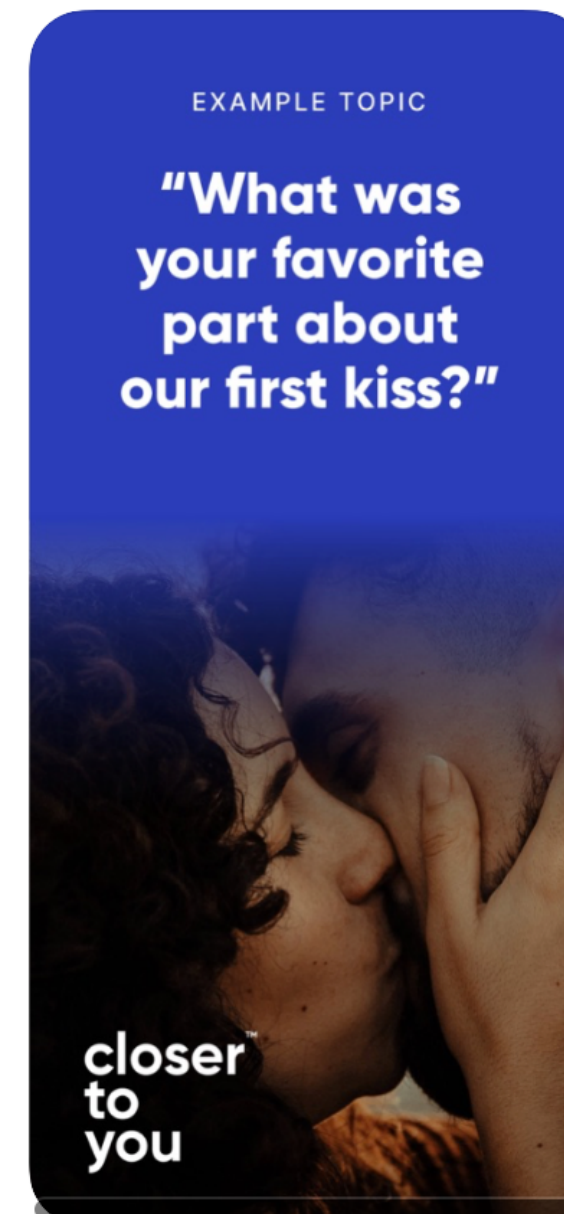
Healthy marriage with fun talk

Asya SIA

★★★★★ 5.0 • 214 Ratings

Free · Offers In-App Purchases

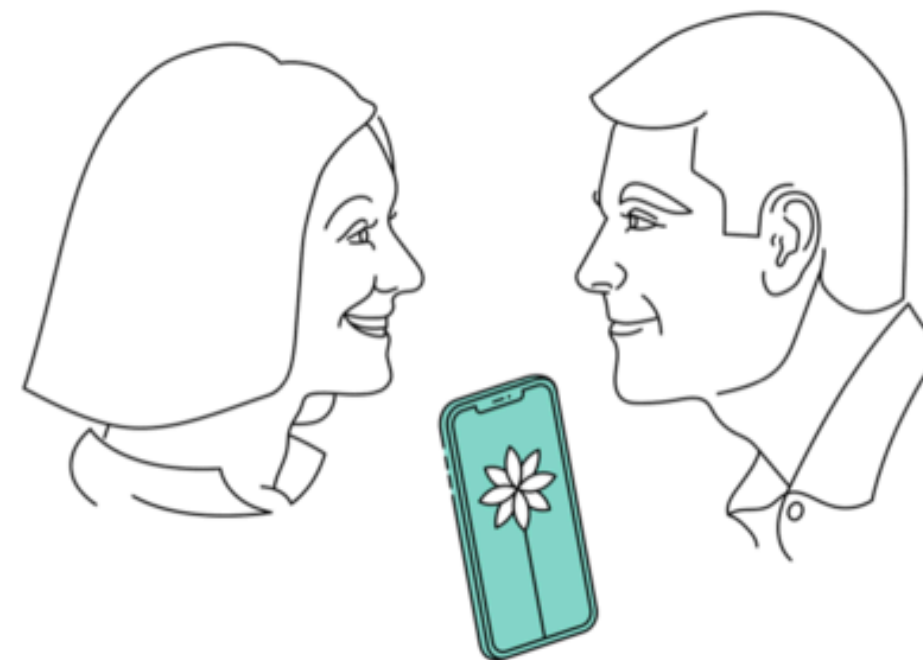
### iPhone Screenshots



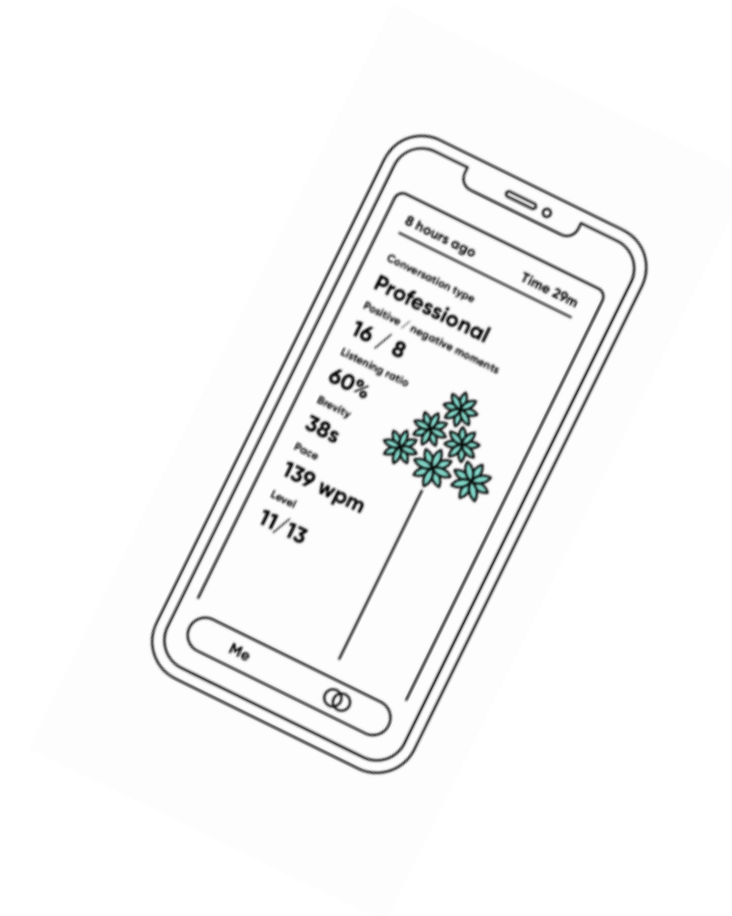
# Lietotne "Closer to You"



**SARUNAS DZĪVĒ**



**PSIHOLOGU IZVEIDOTAS  
SARUNU TĒMAS**



**MI ATGRIEZENISKĀ SAITE PAR  
EMOCIJĀM**



6000+ SARUNU TĒMAS



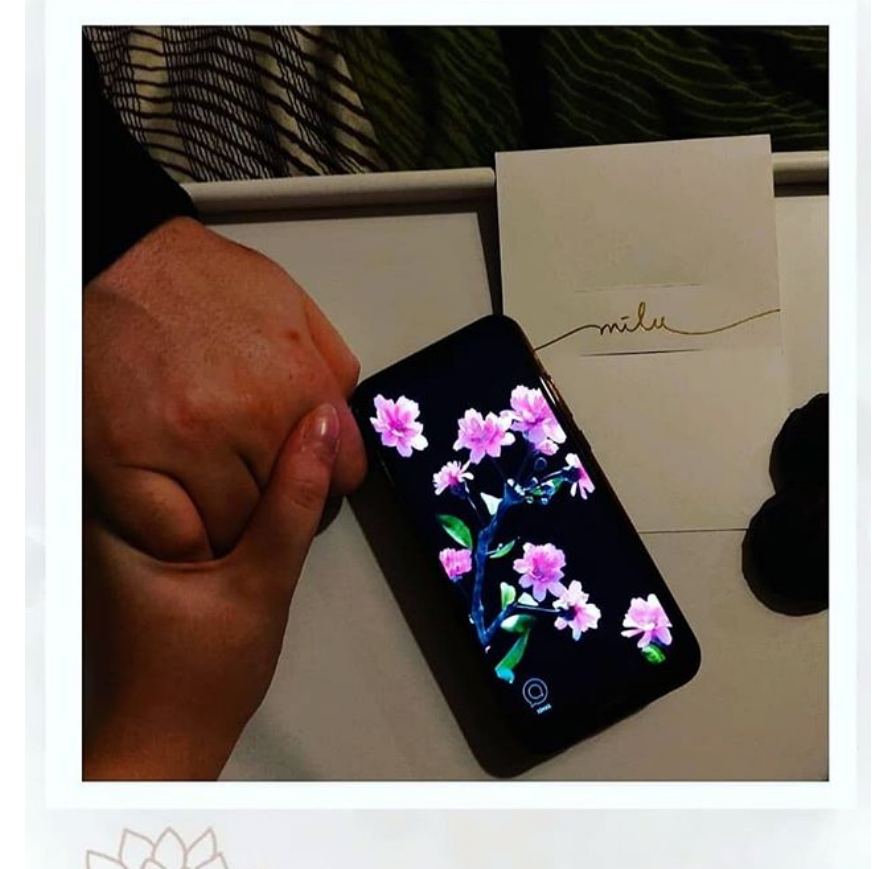
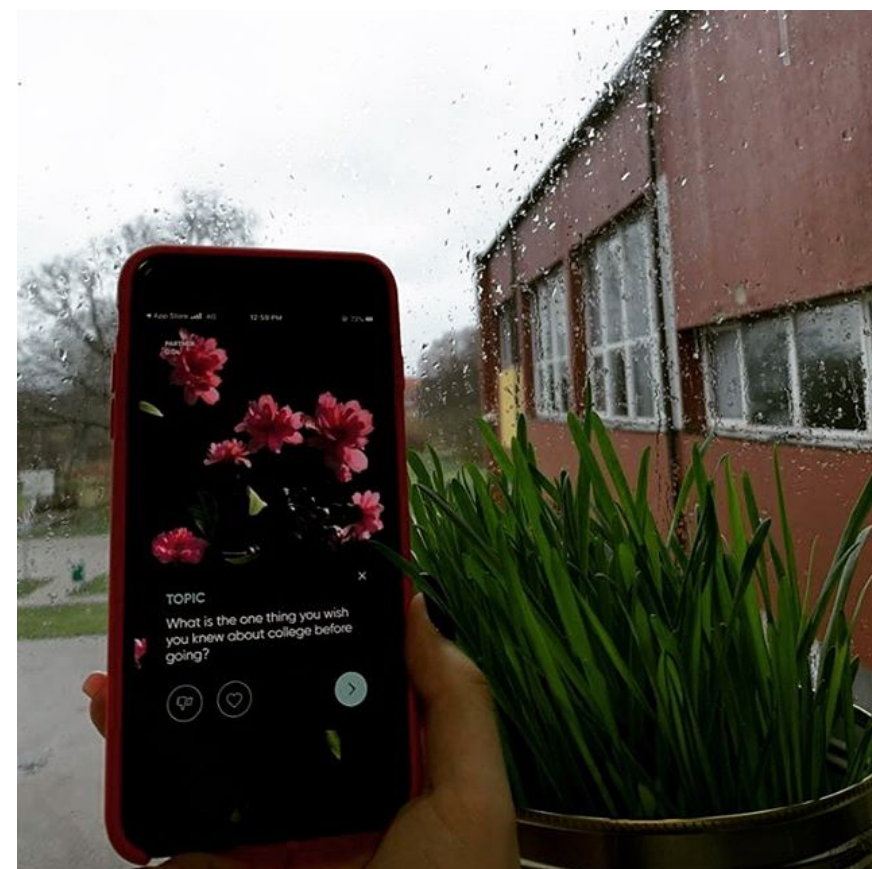
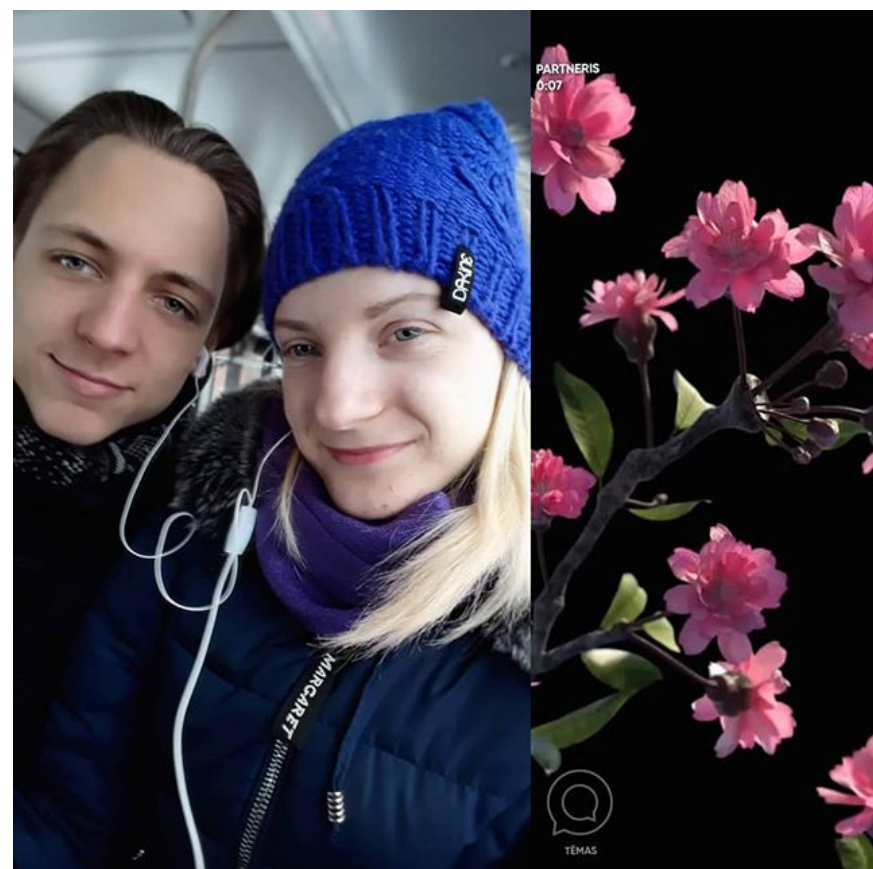
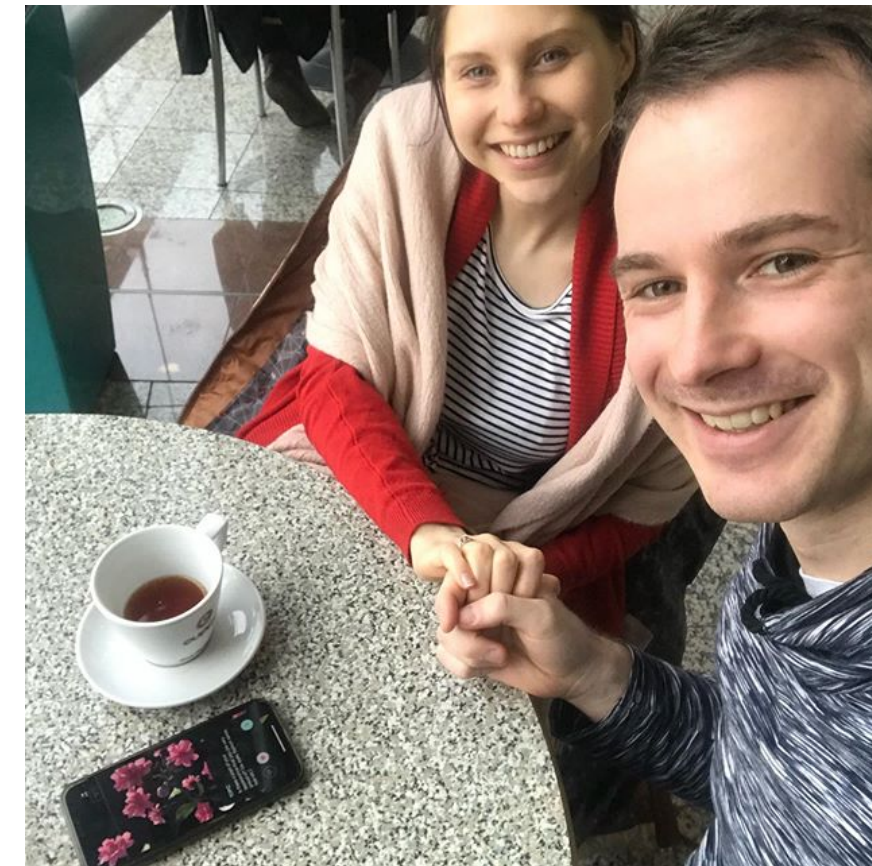
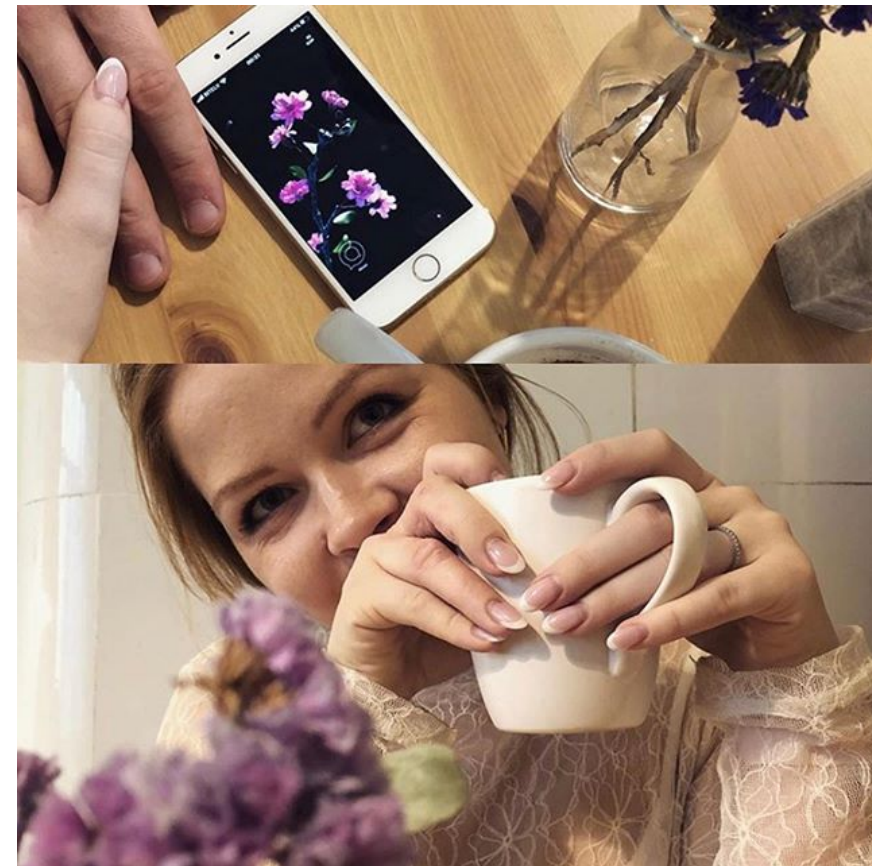
asya


# TIEŠSAISTES STATISTIKA PAR SARUNU





# TIEŠSAISTES STATISTIKA PAR EMOCIJĀM



  
 Featured as  
**App of the Day**









22:16 📶 🔋

◀ Search

Health & Fitness

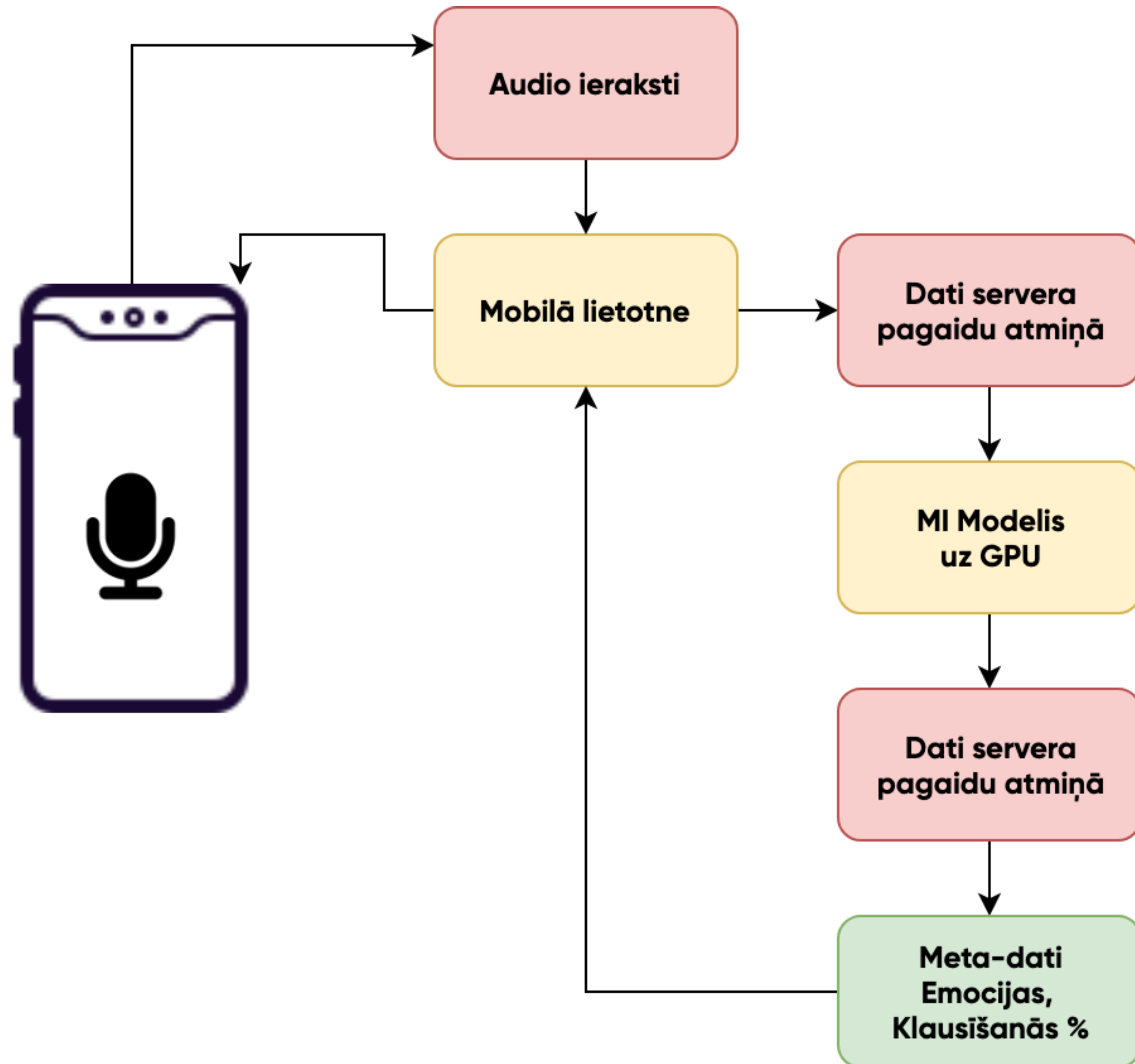
## Top Charts

Free Apps Paid Apps

- 
**1 asya — Mindful Conversations**  
 AI Coach for Communication OPEN
- 
**2 YAZIO: Calorie Counter App**  
 Intermittent Fasting & Keto OPEN
- 
**3 Fitingo - Weight Loss Fitness**  
 Easy 8-min weight loss workout GET In-App Purchases
- 
**4 Flo Period & Ovulation Tracker**  
 Fertility, Pregnancy Calendar OPEN
- 
**5 MyFitnessPal**  
 Calorie Counter & Diet Tracker GET In-App Purchases
- 
**6 Calm - Meditation and Sleep**  
 Meditation and Sleep Stories OPEN
- 
**7 Endomondo Sports Tracker**  
 GPS Running & Workout Track... OPEN
- 
**8 30 Day Fitness**  
 Workout & training challenge GET In-App Purchases

Today Games Apps Updates Search

# Lietotne "Closer to You"



# Lietotne "Closer to You"

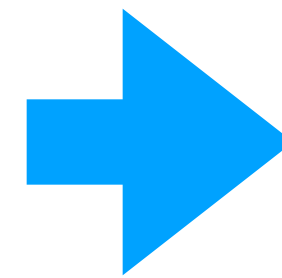
**30 000 lietotāju**

**52 % piekrituši GDPR nosacījumiem**

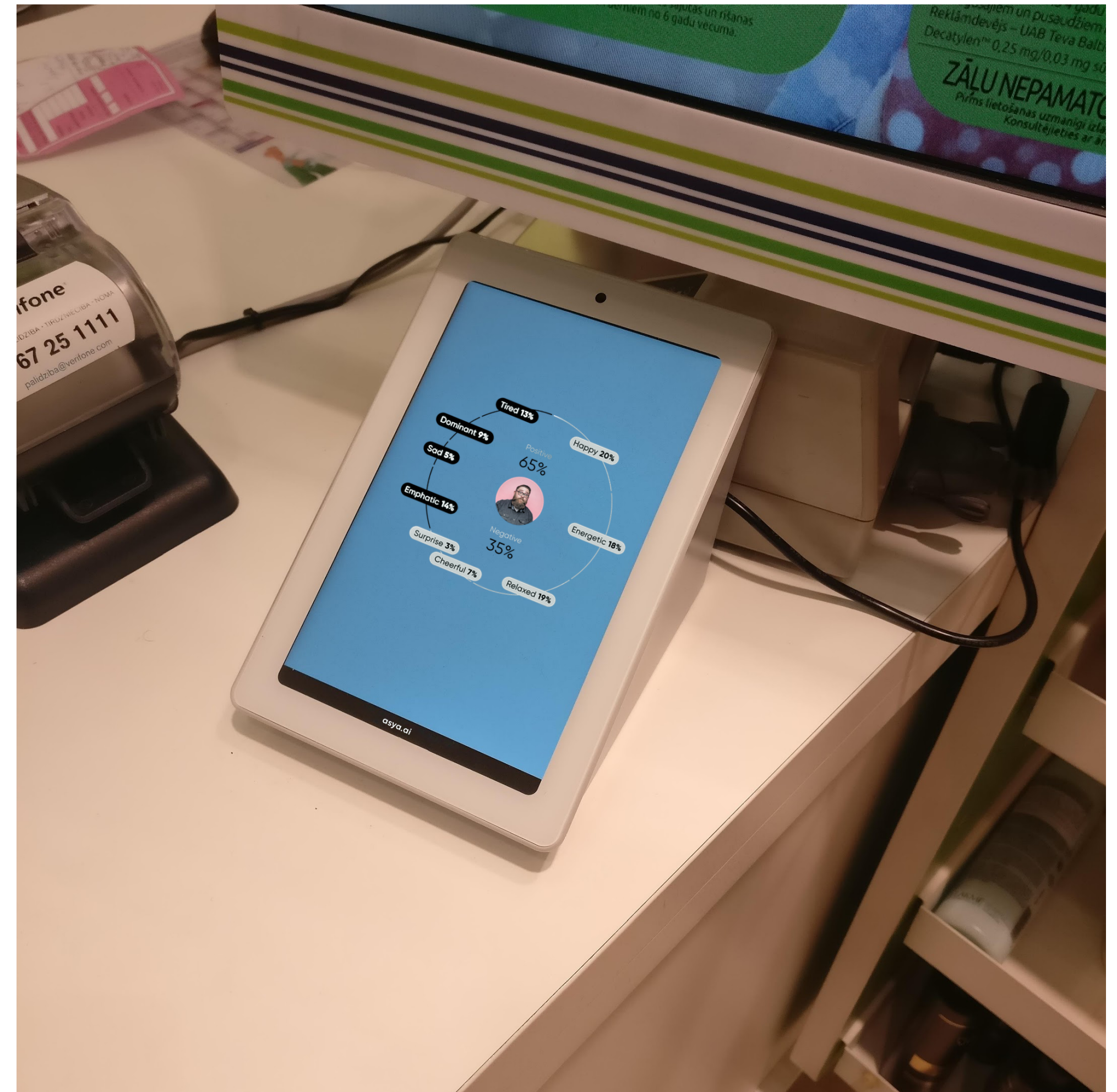
**59% piekrituši ierakstīt sarunas audio**

# SERVISA NOVĒRTĒŠANA

## VECAIS VEIDS



## JAUNAIS VEIDS

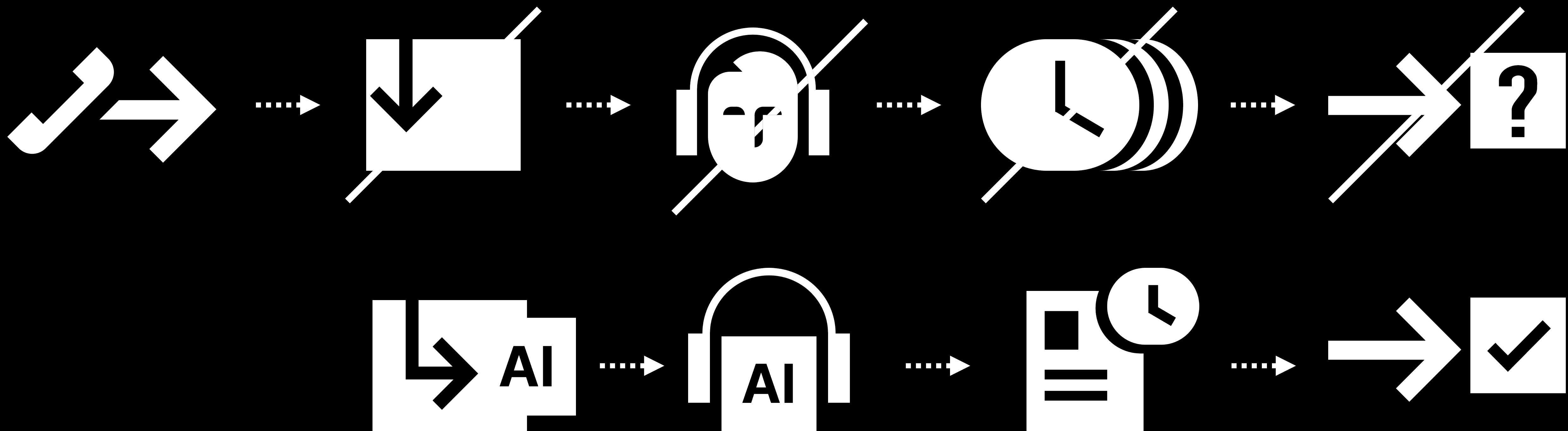


# Vecais veids kā uzlabot rezultātus





# Jaunais veids kā uzlabot rezultātus





**+30%**

**Pārdošanas apjoms**

**+28%**

**Klientu apmierinātība**

# SECOND INTUITION

Client  
Baseall

Source File  
XYCR

## ANALYSIS

00:15



Date 27.04.2021.  
Lenght 00:27:21

### Positivity graph

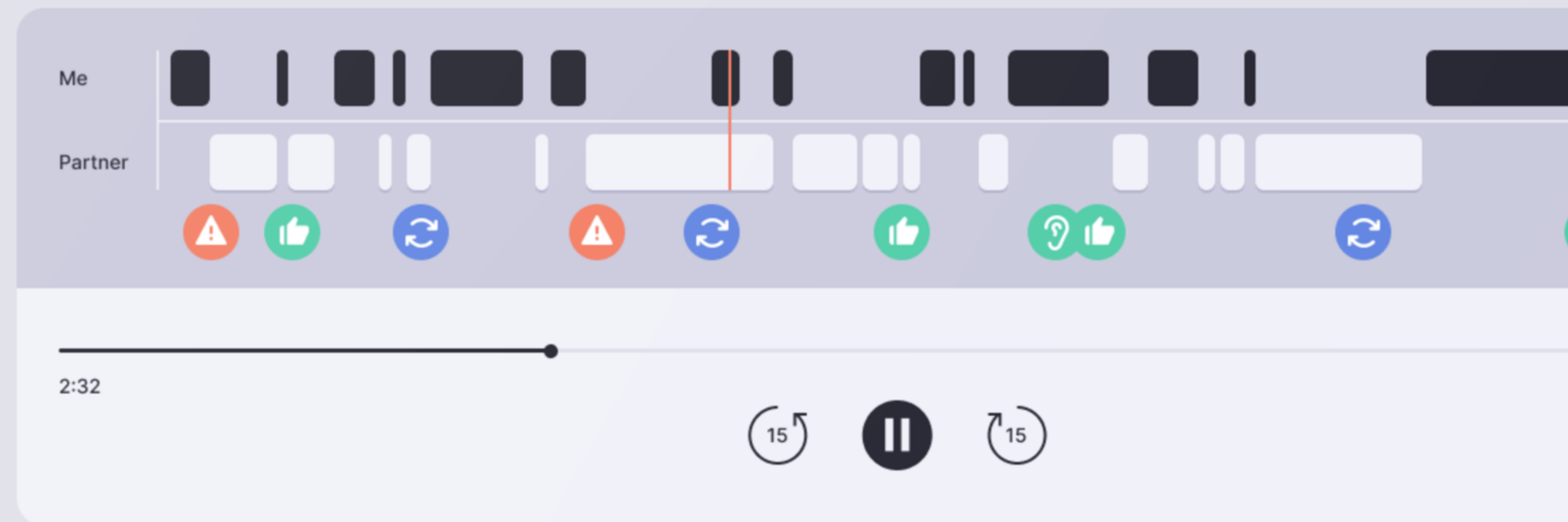


MacBook Pro

# Caurredzamas sarunu metrikas

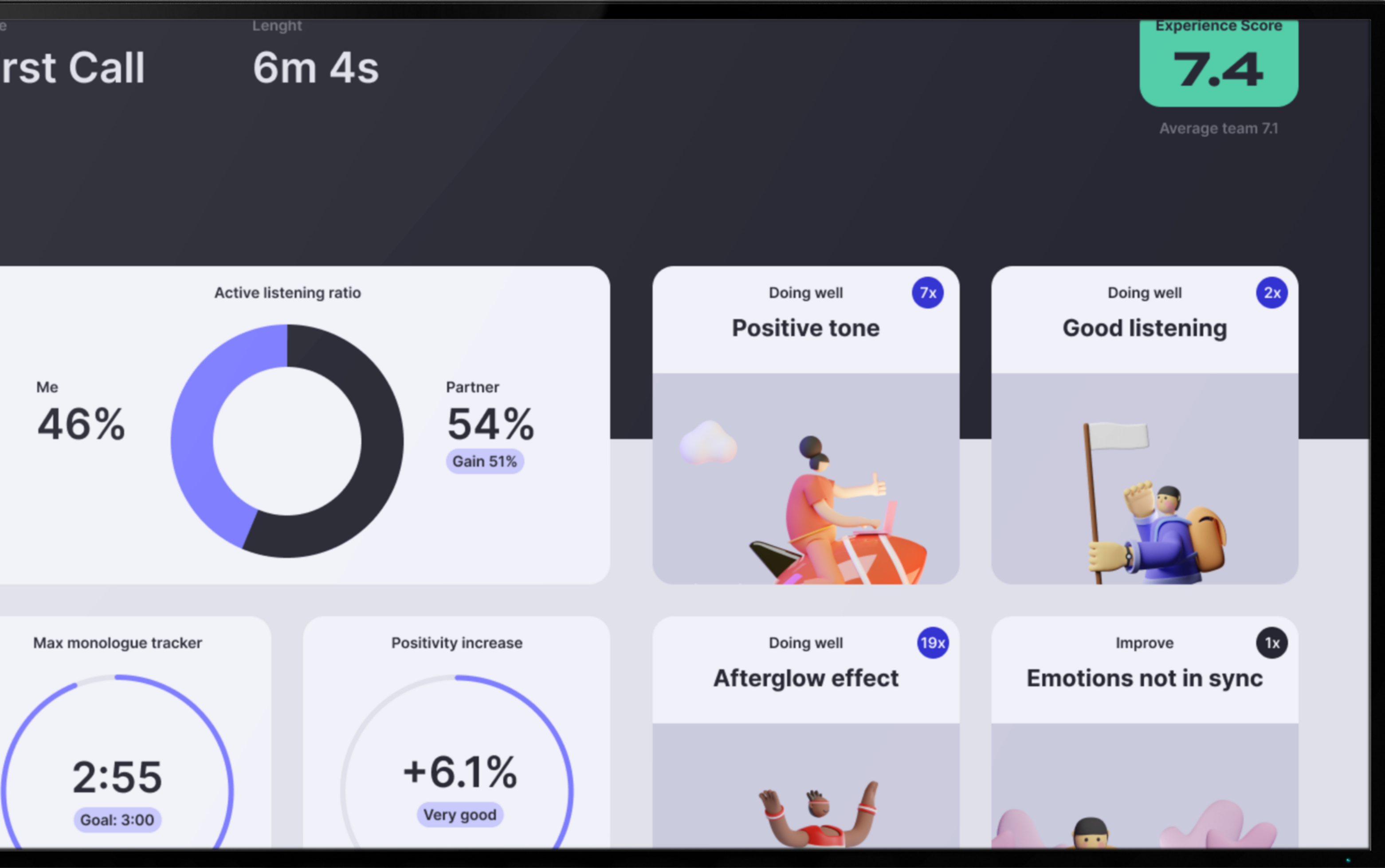
- \* Neverbālā analīze
- \* Atslēgas vārdu analīze
- \* Korelācija ar pārdošana rādījumiem

## Analysis



## Markers

All  Issues  Positive



A / B testi pārdošanas stratēģijām.

Rīks pārdošanas un klientu apkalpošanas stratēģiju atklāšanai

Pitch Patterns.

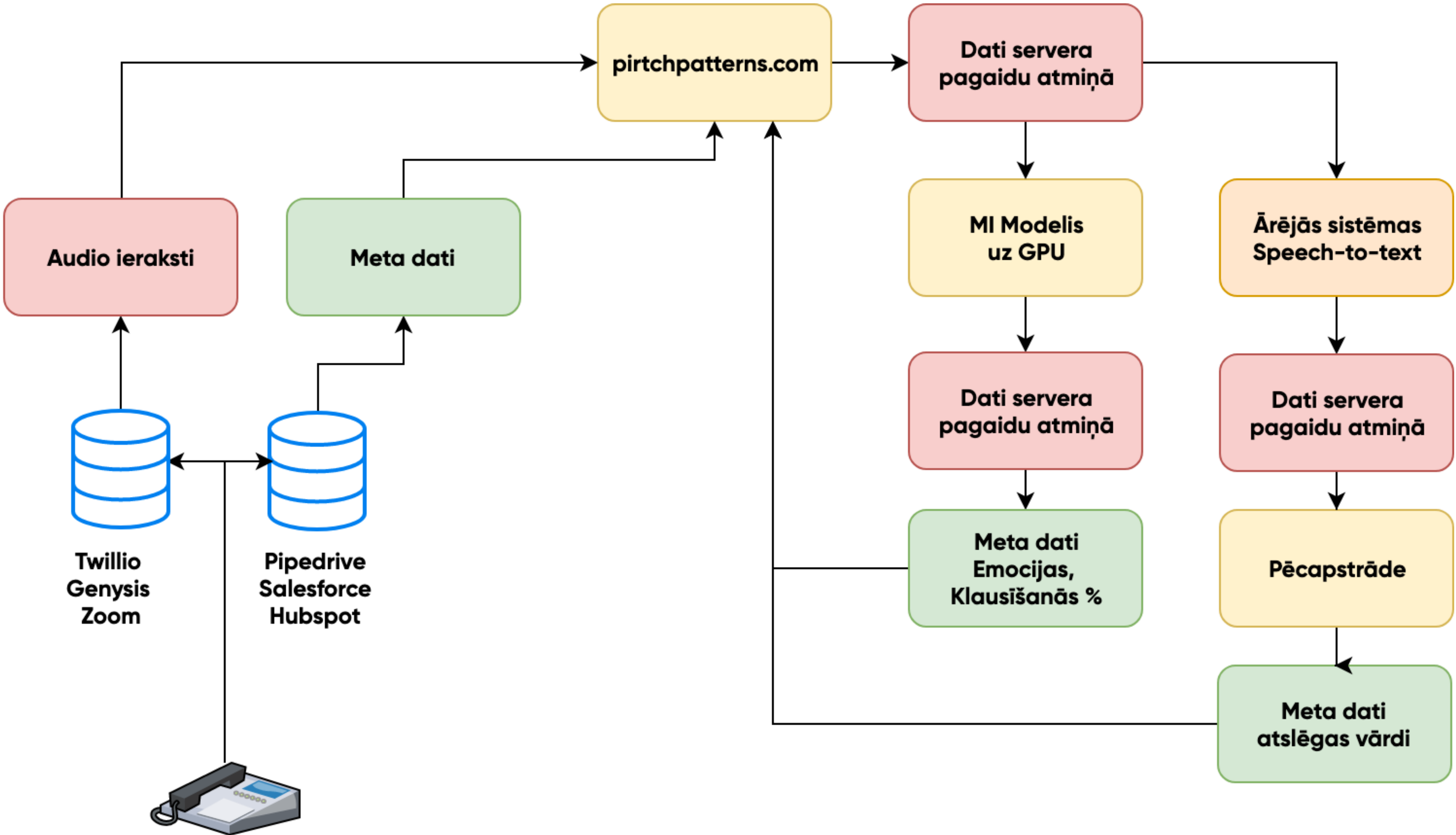
# Lietotne "Pitch Patterns"

lenākošo zvanu analīze

Iepriekš atļauju saņēmušo izveidošo zvanu analīze

Slepeno zvanītāju risinājums

# Lietotne "Pitch Patterns"





A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are arranged in a circular pattern, creating a sense of height and architectural scale. The sky is a pale, overcast grey. The text is centered in the middle of the image.

**Piesakieties demo**  
**info@pitchpatterns.com**