Mehr Glück und Flow durch KI?

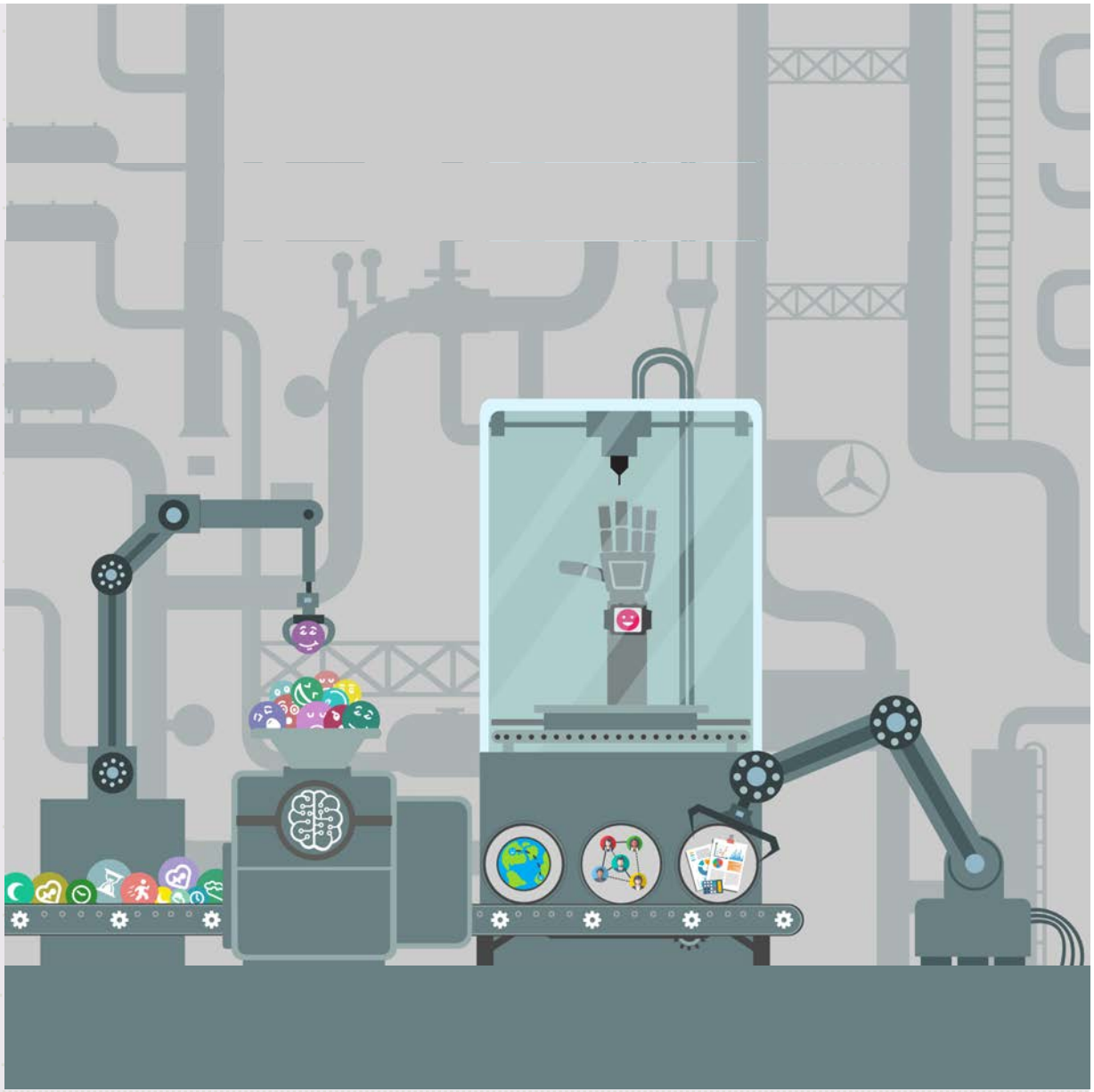
PETER GLOOR

pgloor@mit.edu

http://cci.mit.edu/pgloor

MIT CENTER FOR COLLECTIVE INTELLIGENCE

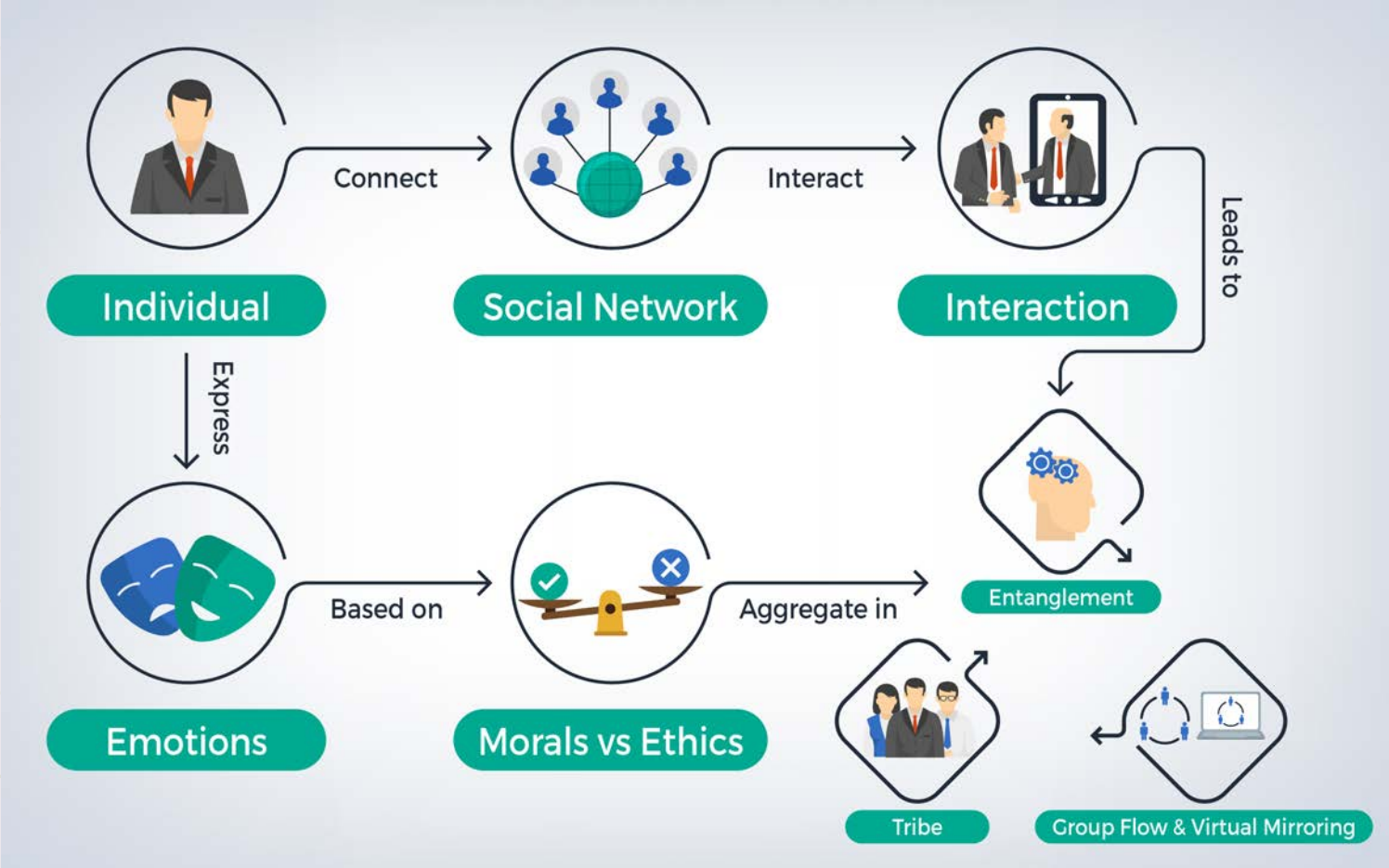
© 2022 Peter A. Gloor



Contents

- Groupflow
- COINs
- Sensing and mirroring groupflow
  - Honest signals
  - Emotions
  - Tribes
  - Ethics
- Dream teams and burnout
- SocialCompass and Griffin

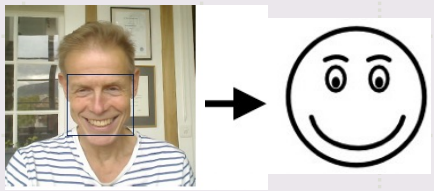
Creating Groupflow – Our unique approach for building superior teams

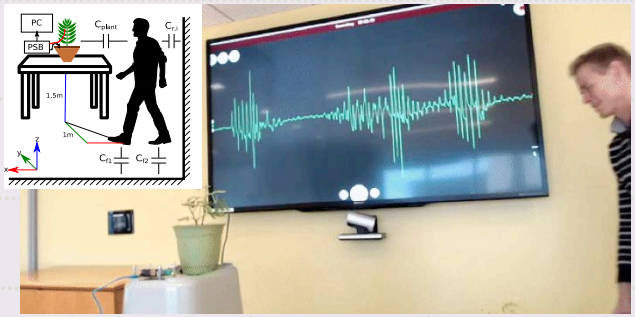


Combining multiple sensors to measure and mirror Groupflow

- Entanglement (SNA, NLP, Dynamics)
- Happimeter
- Face Emotion Recognition
- Plant Emotion Recognition
- Jazz musicians/ice dancers/office workers

- Activity entanglement $E_A(x_T, y_T) = \frac{C_D(x_T) \cdot C_D(y_T)}{\sum_{t=1}^{T} d(A(x_t), A(y_t))}$
- Betweenness entanglement $E_B(x_T, y_T) = \frac{C_D(x_T) \cdot C_D(y_T)}{\sum_{t=1}^{T} d(C_B(x_t), C_B(y_t))}$





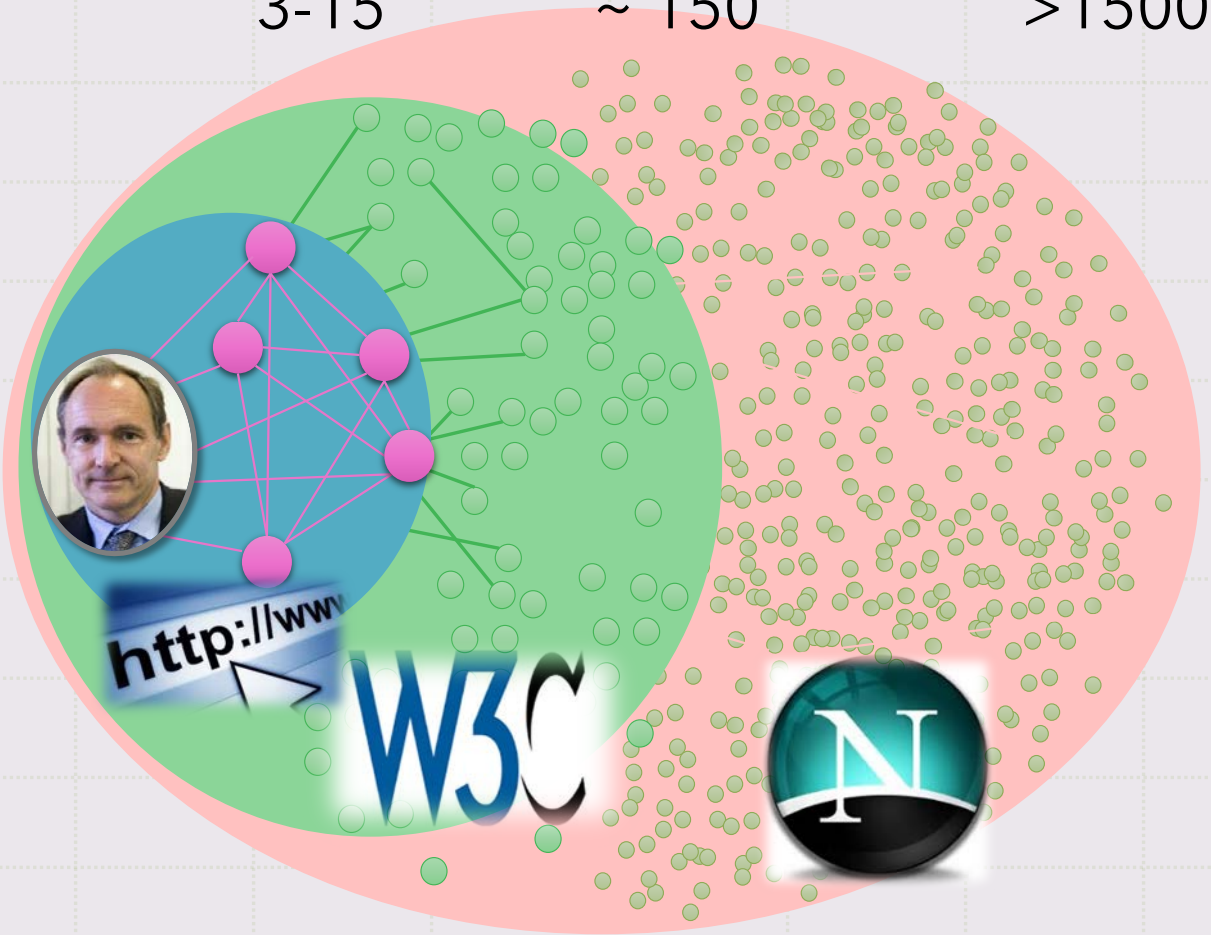
happimeter.org

creator

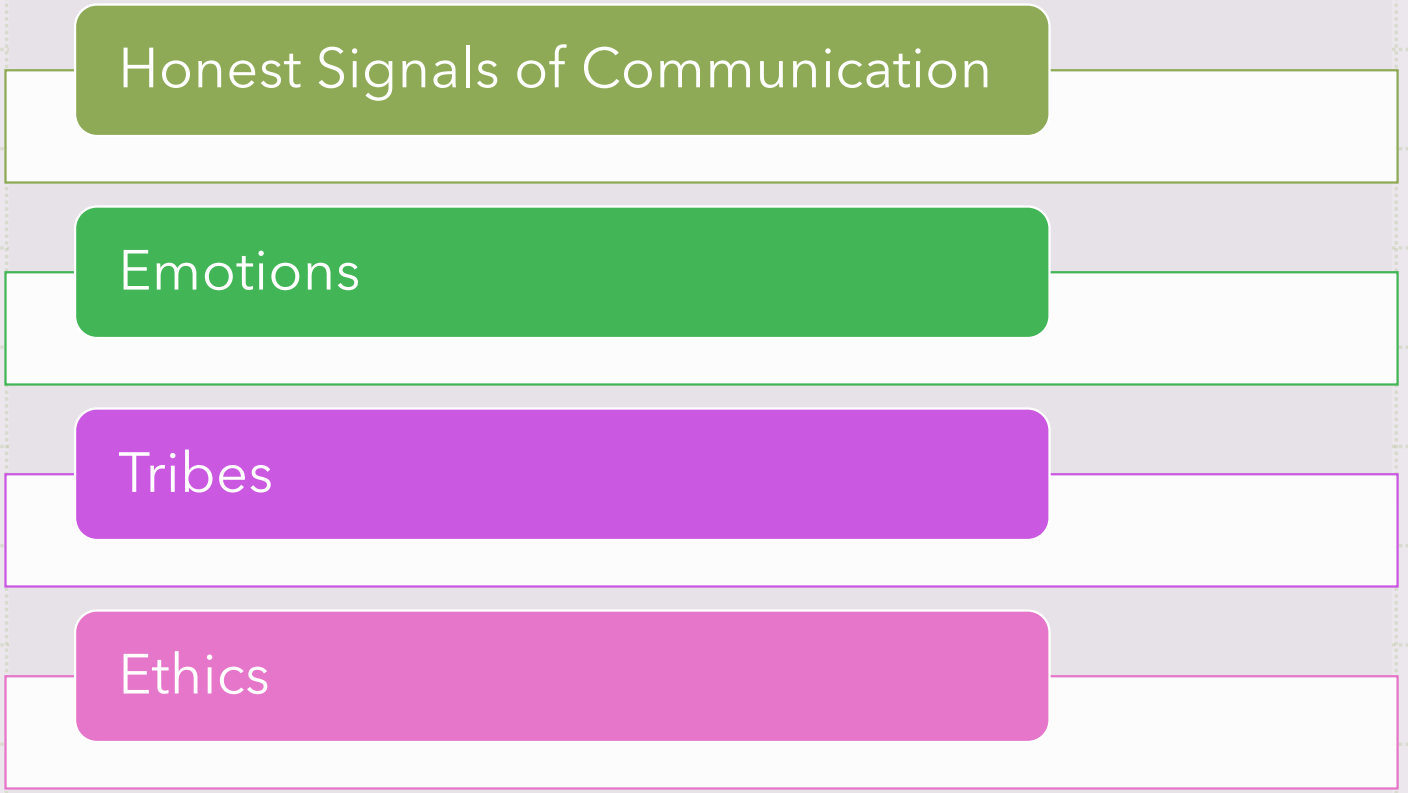
COIN
Collaborative
Innovation Network
3-15

CLN
Collaborative
Learning Network
~ 150

CIN
Collaborative
Interest Network
>1500



Our tools combine 4 unique proprietary components to measure & improve groupflow

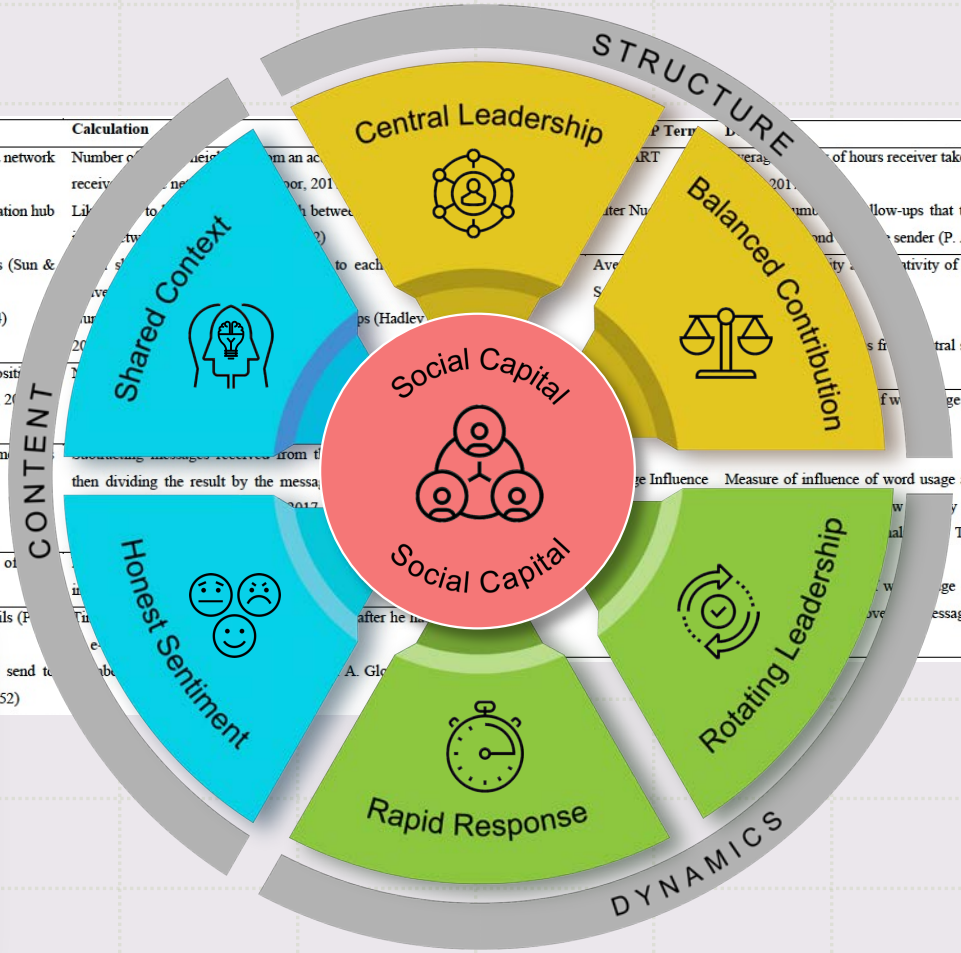


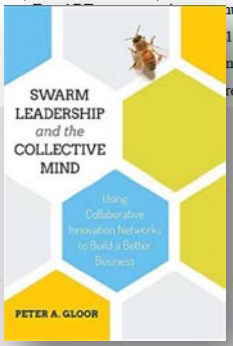
Honest Signals (dynamic SNA)

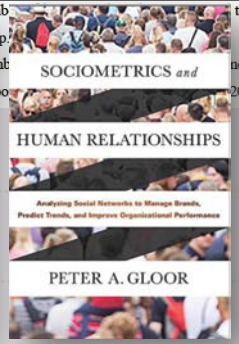
Signal	SNA/NLP Term	Definition	Calculation
Central Leadership	Degree Centrality	Number of actors each person is directly connected within a network (P. A. Gloor, 2017, p. 52)	Number o… …m an ac…
	Betweenness Centrality	Measure of the extent to which each actor acts as an information hub (P. A. Gloor, 2017, p. 52)	Lik… …betwe…
	Closeness Centrality	Measure of the mean distance from a node to other nodes (Sun & Gloor, 2021, p. 4)	…to each…
	Reach2	Proxy for individual social capital (Sun & Gloor, 2021, p. 4)	…ps (Hadley…
Rotating Leadership	Betweenness Centrality Oscillation	Measure of how frequently actors change their network positi… the team, from central to peripheral, and back (P. A. Gloor, 2… 52)	
Balanced Contribution	Contribution Index	Balance of communication in terms of sent and received m… (P. A. Gloor, 2017, p. 52)	…then dividing the result by the messa…
Rotating Contribution	Contribution Index Oscillation	Measure of how frequently actors change the balance of… communication (Sun & Gloor, 2021, p. 4)	
(Rapid) Response		…numb… …to e-mails (P… …17, p… …numb… …needs to send to… …respo… …2017, p. 52)	…after he ha… …A. Glo…

Signal	SNA/NLP Term	Definition	Calculation
	…P Term…	…D…	
	…ART	…verag…	…of hours receiver takes to respond to e-mails (P. A.
	…ter Nu…	…umu…	…llow-ups that the receiver needs to send to
	…nd		…sender (P. A. Gloor, 2017, p. 53)
	Ave…	…ity …	…ntivity of communication (P. A. Gloor,
	S…		
			…s fr… …tral sentiment (P. A. Gloor, 2017,
			…f w… …ge (P. A. Gloor, 2017, p. 53)
	…ge Influence	Measure of influence of word usage averaged over all messages –	…w… …y newly introduced words are
			…al… …TF/IDF (P. A. Gloor, 2022, p.
			…w… …ge - the individual influence per
			…ove… …essages of an actor (P. A. Gloor,

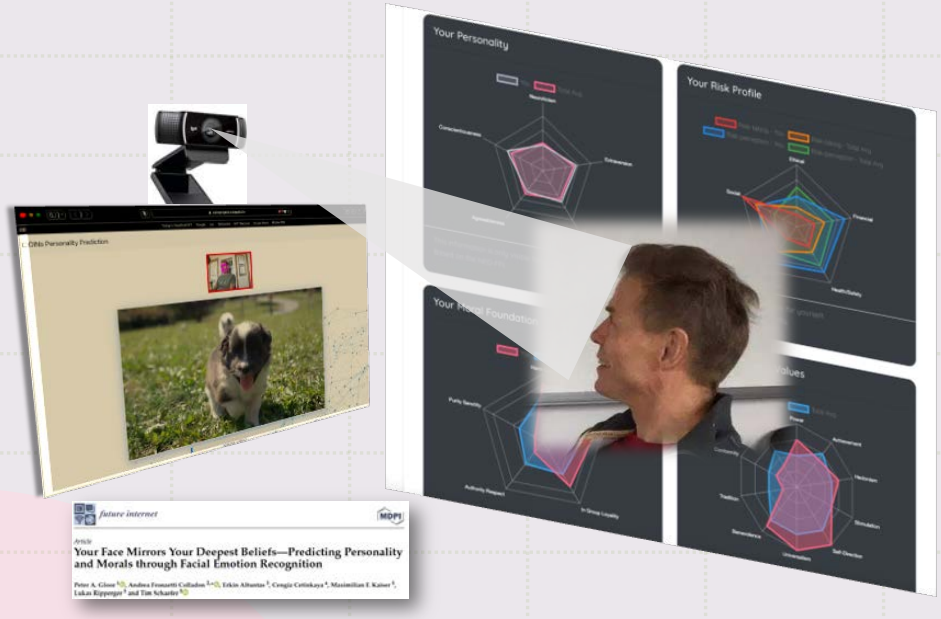
Calculation
Time until a frame is closed for the sender, after he has sent a… e-mail (P. A. Gloor, 2017, p. 53)
Number of pings until receiver responds (P. A. Gloor, 2017, p… 53)
Sentiment scores which are predicted through ML mode… trained on twitter data are averaged (P. Gloor et al., 2020; P. A… Gloor, 2017, p. 53)
Standard deviation of sentiment (P. A. Gloor, 2017, p. 53)
Information distribution using Term Frequency Invers… Document Frequency (TF/IDF), independent of single word… (P. A. Gloor, 2017, p. 53)
Counting the popularity of a word within a message compare… to all other messages in the community (using TF/IDF) (P. A… Gloor, 2022, p. 137)
Summing up influence measure (described above) over al… messages of an actor (P. A. Gloor, 2022, p. 137)

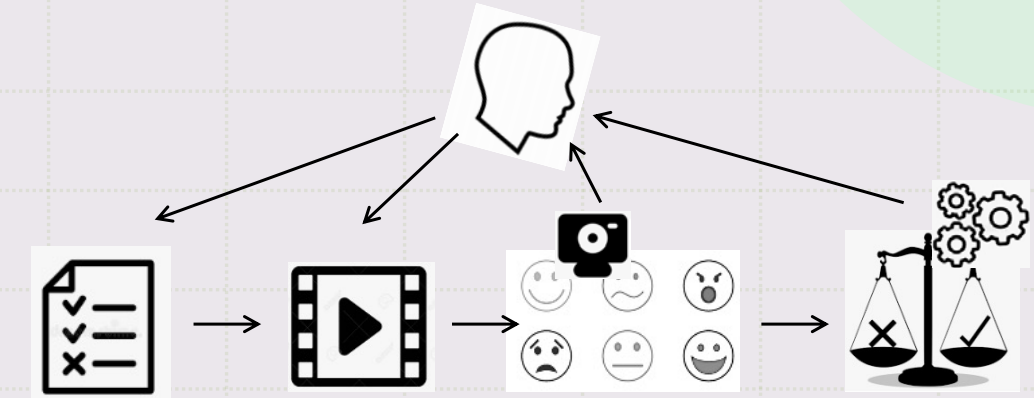






Emotional response to external events indicates personal values and morals





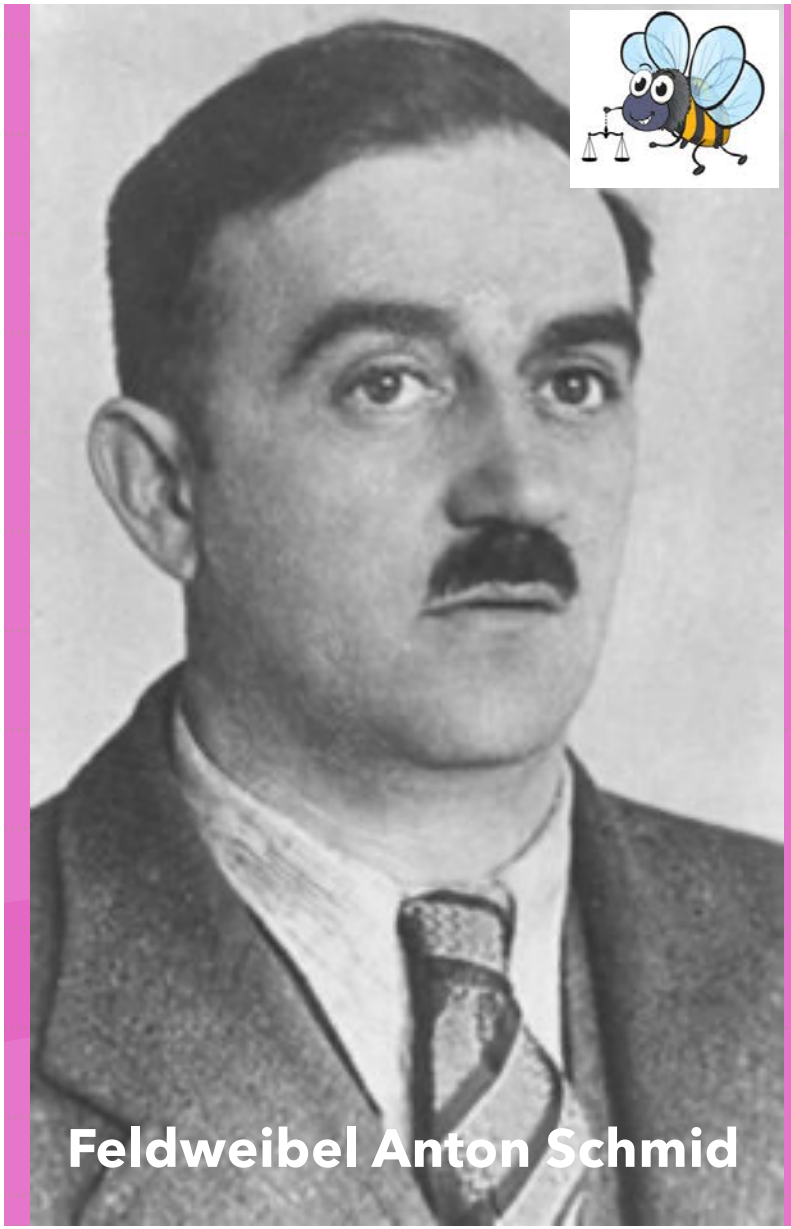
User fills out 4 morality and personality surveys

User views 15 emotionally provoking movie snippets

Facial response to movie snippets is recorded with Webcam

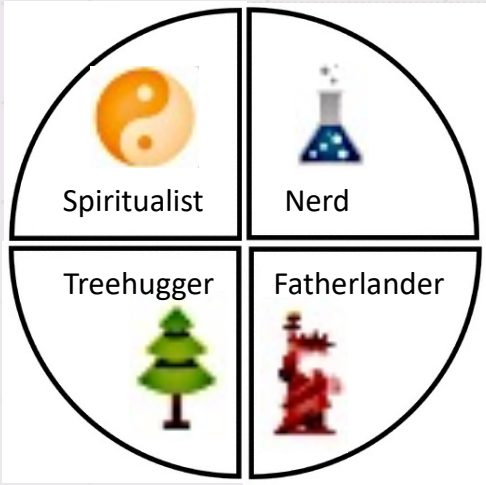
ML model trained with emotions from movies and morals from surveys automatically predicts morals

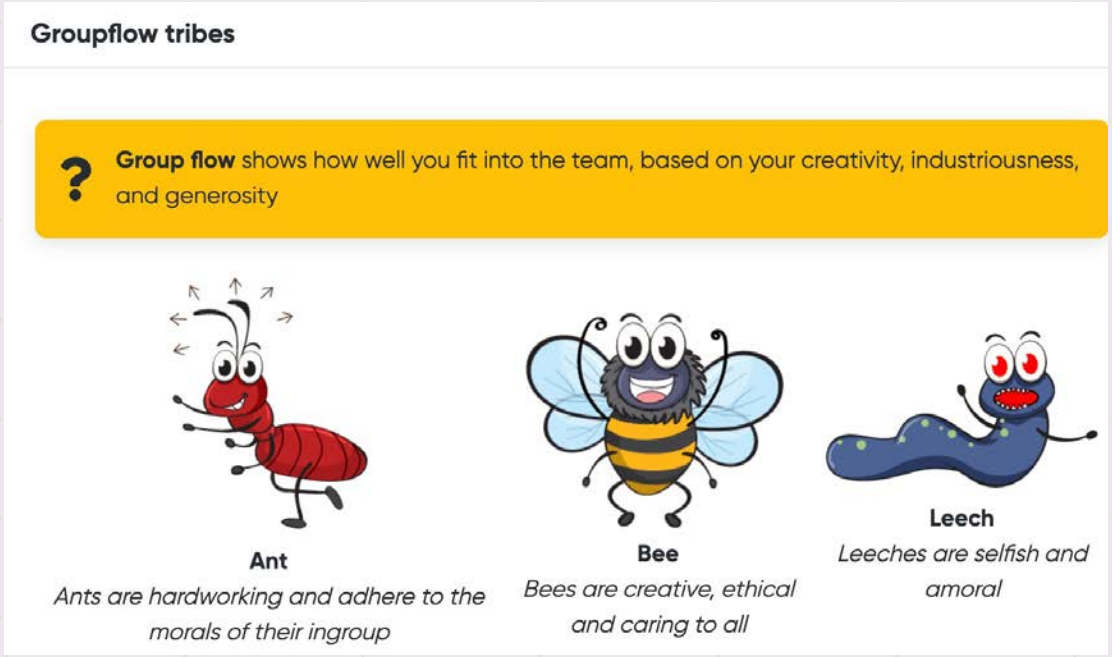
facerecognition.galaxyadvisors.com

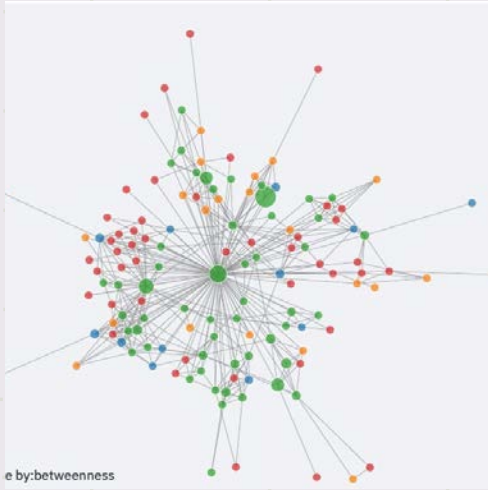

Feldweibel Anton Schmid

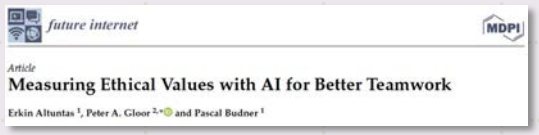
Compute **ethics** of employees by AI

- creating embeddings for tribes, finding the language that gives away the values of a tribe









Build dream teams and radically reduce employee burnout

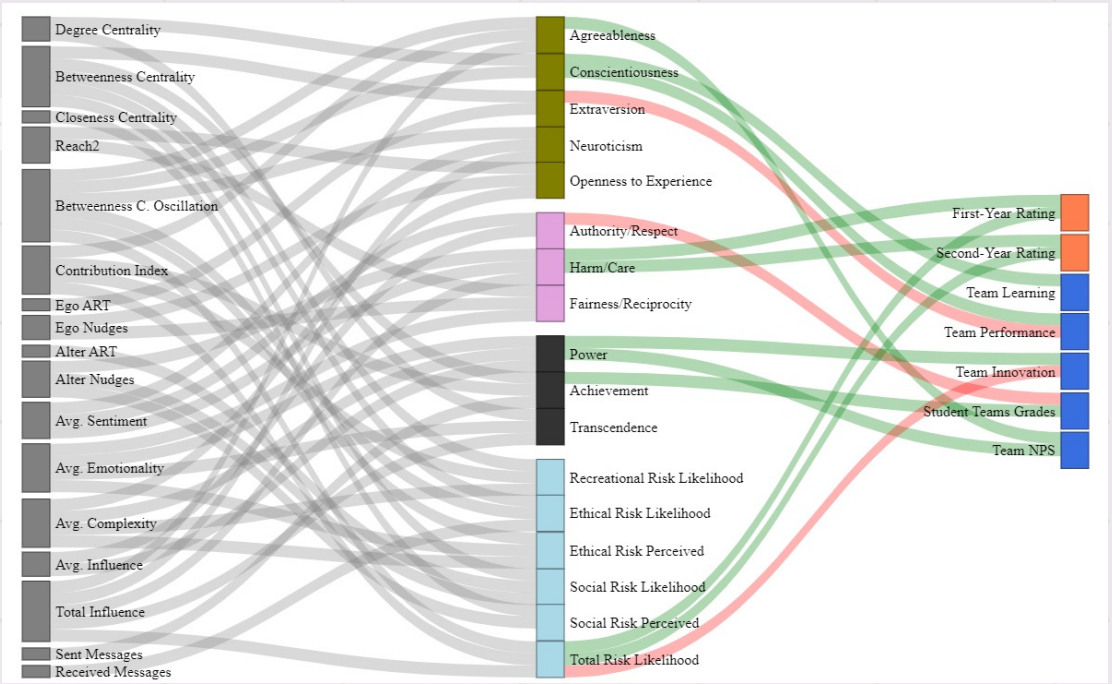
Star team players are:

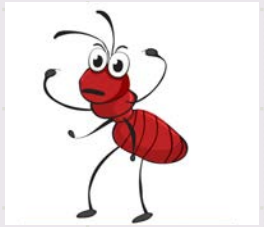
Creative bees
Hardworking ants
Not leeches
Conscientious
Agreeable
Open
Ethical
Fair
Modest

Employees in risk of burnout are:

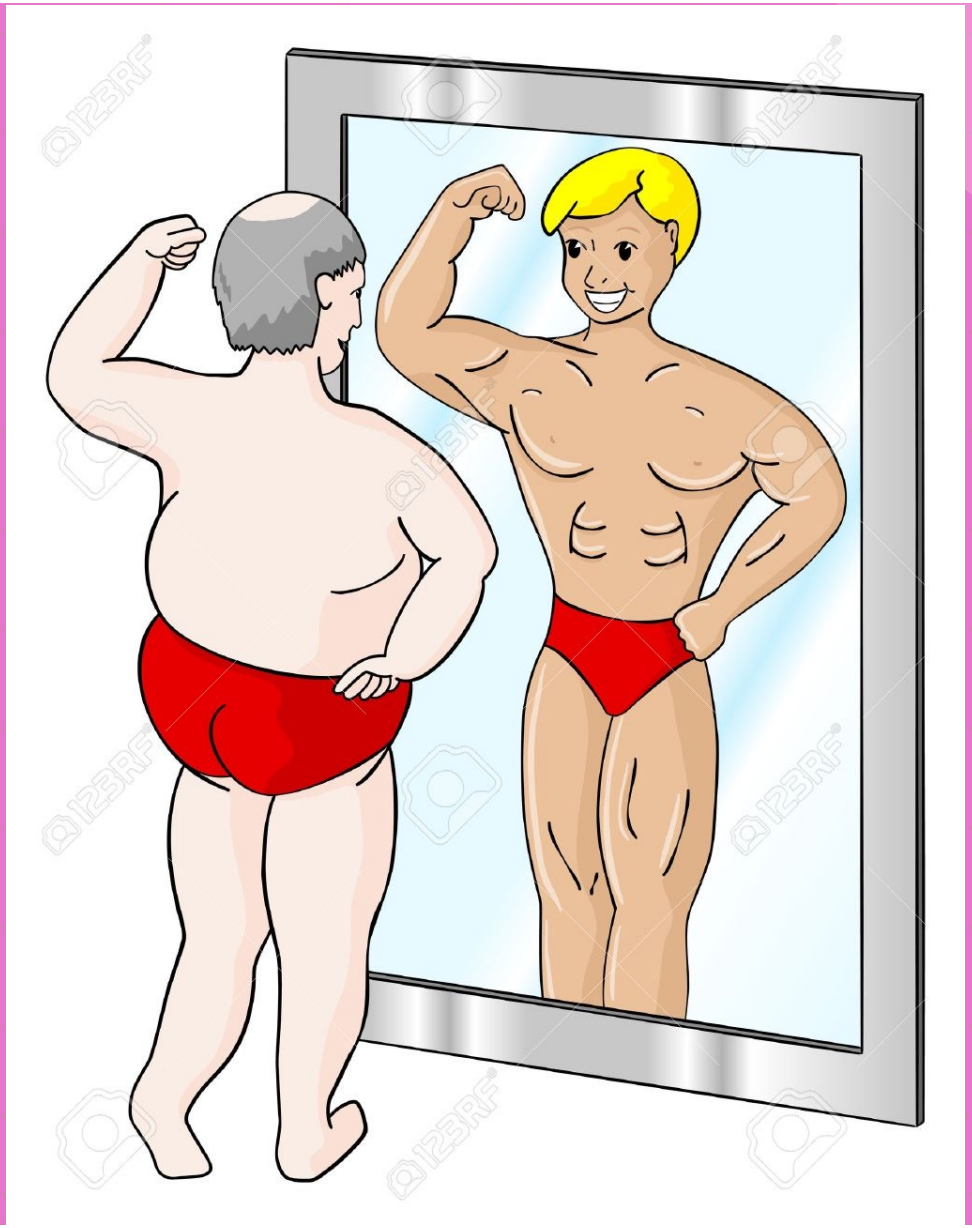
Emotionally different from before
Less proactive
Getting less messages
Getting less respect
Showing less passion

Our AI models predict personality and team performance/individual burnout

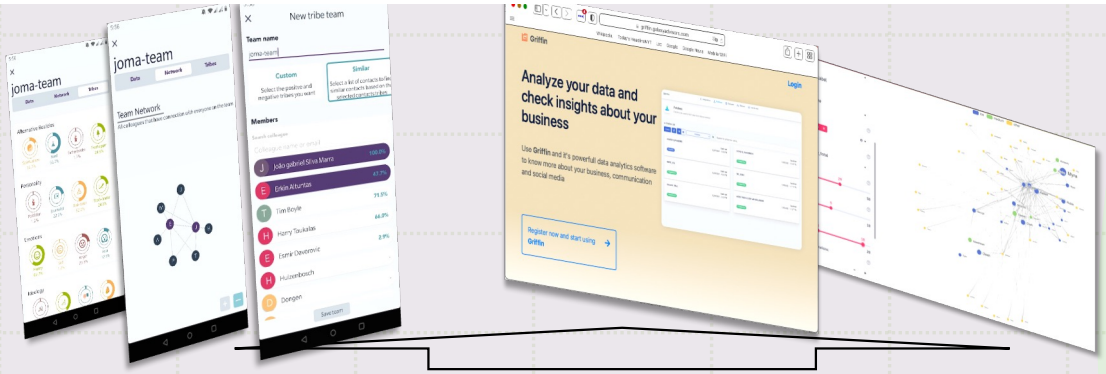




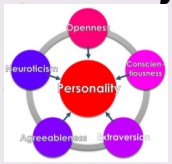
Individual performance	More ant Less arrogant
Team learning	More bees Less leeches More fair Less arrogant
Team performance	More bees Less leeches Less arrogant More happiness More fear
Team innovation	Less leeches More fear More happiness
Customer satisfaction	Less arrogance Less interest Less leeches



Social Compass & Griffin recognize dream teams and burnout



Personality



Ethics

Our proprietary AI models track team players and burnout, VM

7 honest signals

Emotions

Tribes

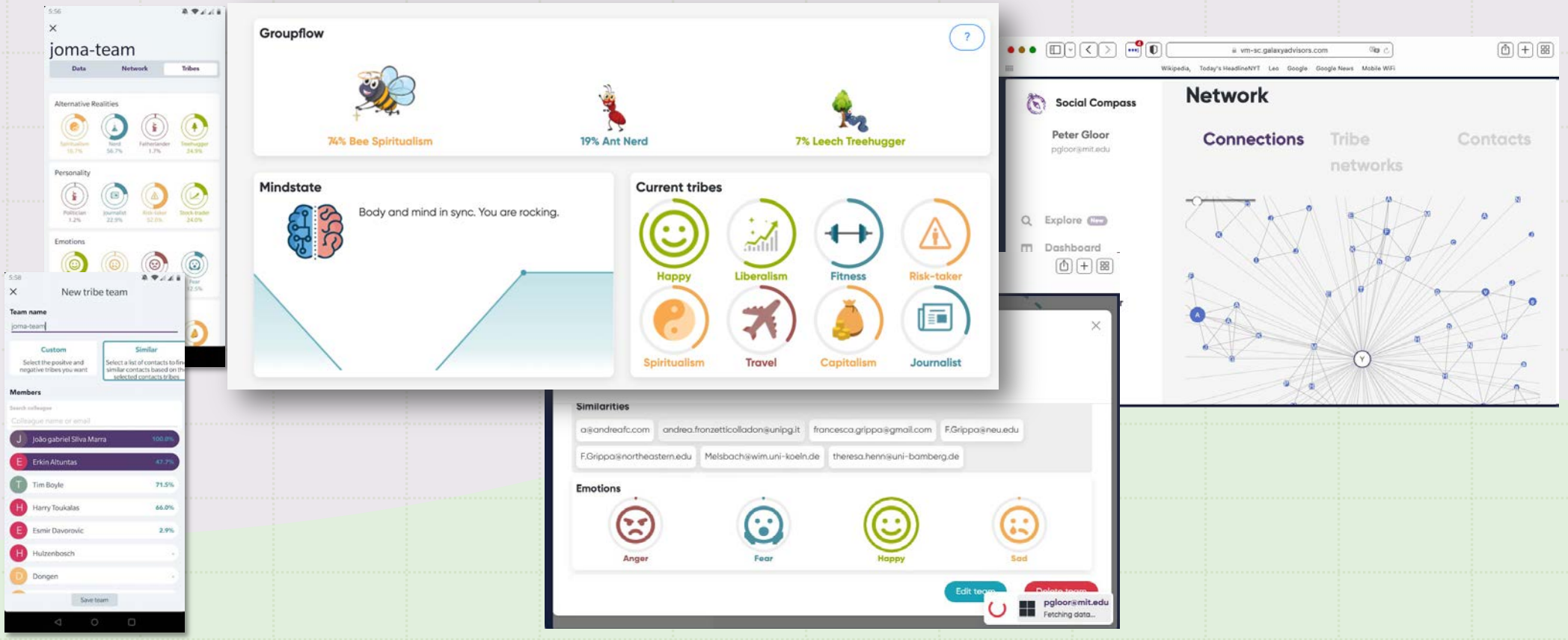
Our proprietary dynamic SNA algorithms compute features as input for AI models

E-Mail, Teams, Slack

Text, Dynamics, Network

E-Mail metadata and encrypted content

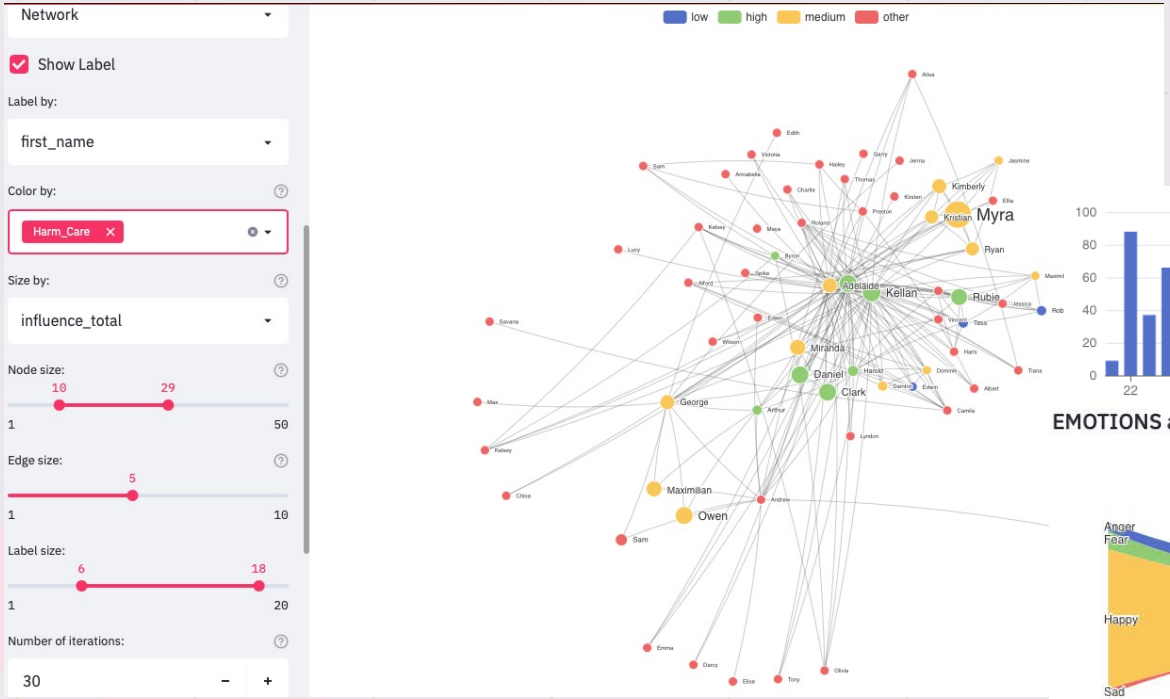
SocialCompass - one-click Web & Phone app

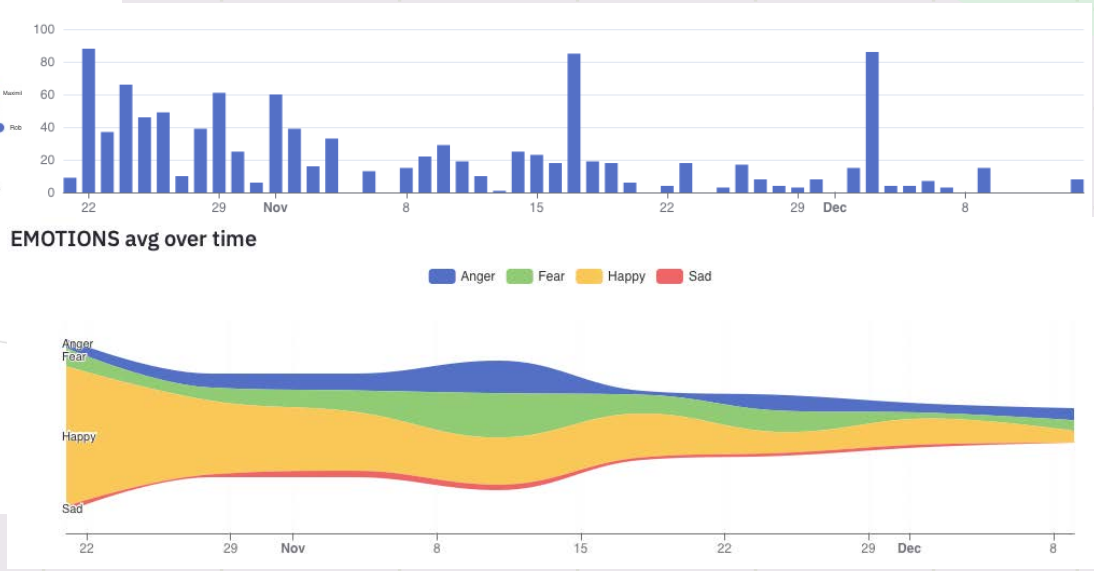


Galaxy social compass (Google play store, Apple store)

vm-sc.galaxyadvisors.com

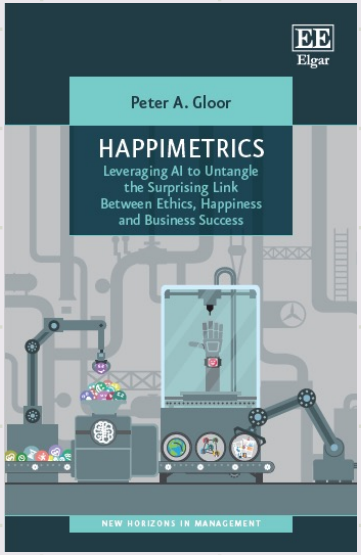
Griffin does in-depth SNA, emotion, tribe, and ethics analysis





griffin.galaxyadvisors.com

20 years of MIT Science on COINs with AI and SNA



www.happimetrics.com
www.ickn.org

Measuring Ethical Values with AI for Better Teamwork, E Altuntas, PA Gloor, P Budner - Future Internet, 2022

'Entanglement'–A new dynamic metric to measure team flow, PA Gloor, MP Zylka, AF Colladon, M Makai - Social Networks, 2022

Your Face Mirrors Your Deepest Beliefs—Predicting Personality and Morals through Facial Emotion Recognition, PA Gloor, A Fronzetti Colladon, E Altuntas, C Cetinkaya, MF Kaiser, .. Future Internet 14 (1), 5

Measuring happiness increases happiness, J Roessler, PA Gloor - Journal of Computational Social Science, 2021

E-Mail Network Patterns and Body Language Predict Risk-Taking Attitude. J Sun, P Gloor, Future Internet 2021, 13, 17

Finding top performers through email patterns analysis, Q Wen, PA Gloor, A Fronzetti Colladon, P Tickoo… - Journal of Information Science, 2020

The digital footprint of innovators: Using email to detect the most creative people in your organization. PA Gloor, AF Colladon, F Grippa. Journal of Business Research 114, 254-264

Put your money where your mouth is: Using deep learning to identify consumer tribes from word usage. P Gloor, AF Colladon, JM de Oliveira, P Rovelli. International Journal of Information Management 51, 101924

Heart Beats Brain: Measuring Moral Beliefs Through E-mail Analysis. PA Gloor, AF Colladon - Collaborative innovation networks conference of Digital …, 2019

Mirror, Mirror on the Wall, Who Is Leaving of Them All: Predictions for Employee Turnover with Gated. JM de Oliveira, MP Zylka, PA Gloor, T Joshi - Collaborative Innovation Networks: Latest Insights from …, 2019