



MAVIC

GLOBAL FACE ANALYSIS IN HUMAN-TECHNOLOGY INTERACTION (GoFASE)

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GoFASE is a joint international project funded by the Academy of Finland and the Russian Foundation of Humanities. It is a multi-disciplinary project that combines expertise and resources from computer vision, image processing and understanding, pattern recognition, behavioral science, and human-technology interaction (HTI).

GoFASE aims at developing and expanding research knowledge on new ways of utilizing automatic face analysis in social-emotional HTI and building new support for vision-based user interfaces. The main objective of the project is to design and implement a new type of user interface that incorporates different machine vision techniques for the purpose of analyzing global facial information received from the user. Global facial information combines all detectable visual cues from the user's face and head as, for example, facial expressions, eye movements, gaze direction, head movement, and head orientation. The target application areas are technology-mediated social-emotional communications, networking, simulations, and gaming.

MAVIC CONSORTIUM

Research in the project is carried out by Machine Vision Interaction (MAVIC) consortium which consists of two Finnish and one Russian research team. Finnish team includes researchers from Research Group for Emotions, Sociality, and Computing headed by Professor Veikko Surakka and Multimodal Interaction Research Group headed by Professor Roope Raisamo. Both research groups are part of Tampere Unit for Computer Human Interaction (TAUCHI) located at the Department of Computer Sciences, University of Tampere. Russian team is located at Laboratory of Neuroinformatics of Sensory and Motor Systems (NISMS), A.B. Kogan Research Institute for Neurocybernetics, Southern Federal University (SFedU), Russian Federation. Dr. Dmitry Shaposhnikov leads the Russian team.

Duration: 2009-2012

PRINCIPAL INVESTIGATORS

	Professor Veikko Surakka Head of the consortium
	Professor Roope Raisamo Leader of the sub-project
	Dr. Dmitry Shaposhnikov Leader of the sub-project
	Dr. Yulia Gizatdinova Assistant project coordinator
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KEY PUBLICATIONS TO DATE:

- Gizatdinova Y., Erola J., Surakka V. (2008). Automatic real-time localization of frowning and smiling faces under controlled head rotations. *Transactions on Signal Processing*, 1(4), pp. 463-473.
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- Anishenko S., Osinov V., Shaposhnikov D., Podlachikova L., Comley R., Sukholentsev K., Gao X. (2008). A motion correction system for brain tomography based on biologically motivated models. In *proc.: VII IEEE International Conference on Cybernetic Intelligent Systems (CIS'08)*, London, UK, pp. 32-36.
- Gao X., Anishenko S., Shaposhnikov D., Podlachikova L., Batty S., Clark J. (2007). High-precision detection of facial landmarks to estimate head motions based on vision models. *Journal of Computer Science*, 3(7), pp. 528-532.

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