

Personal data

First name: Vojtěch
Family name: Franc
Nationality: Czech
Marital status: Married, one child (Tomaš)
Contact address: Center for Machine Perception
Czech Technical University,
Faculty of Electrical Engineering
Department of Cybernetics
Technická 2, 166 27 Praha 6,
Czech Republic
WWW: <http://cmp.felk.cvut.cz/~xfrancv>
Email: xfrancv@cmp.felk.cvut.cz

Education

2000–2005 **Ph.D.**, CMP FEE CTU Prague.
Thesis: **Optimization Algorithms for Kernel Methods.**
Supervised by Prof. Vaclav Hlavac.
1994–2000 **MSc.**, CMP FEE CTU
Thesis: **Pattern Recognition Toolbox for Matlab.**
Supervised by Prof. Vaclav Hlavac.

Employment

2008–present **Research fellow** at CMP FEE CTU
2006–2008 **Research fellow** at Fraunhofer Institute FIRST.IDA in Berlin.
2004–2006 **Research fellow** at CMP FEE CTU
1994–2000 **Student Assistant, Academy of Sciences of the Czech Republic.**
Institute of Rock Structure and Mechanics.
Designed and implemented: **Seismic Monitoring System for PC,**
Systems for data acquisition and processing.

Research fellowships

2006–2008 **Marie Curie PostDoc fellow** at IDA.FIRST of Fraunhofer Institute in Berlin.
March - June, 2001 Vienna University of Technology, Computer Science Department
Pattern Recognition and Image Processing Group
Erasmus Student Exchange Program
May, 2001 Erasmus Intensive Program 2001 on Computer Vision in Pavia, Italy.
August, 1997 Delft University of Technology, The Netherlands
Faculty of Information Technology and Systems.
Project: **Profile Face Analysis Based on Edge Detection .**

Teaching experience

2008–present Lecturing labs of the **Optimization and Computer Vision**
courses at FEE CTU
2004–2006 Lecturing the **Pattern Recognition** courses at FEE CTU
2000–2006 Lecturing labs of the **Pattern Recognition** course at FEE CTU
Aug, 2004 Lecturing labs of the Ph.D. course on **Advanced**

Pattern Recognition Techniques with Applications to Computer Vision Problems, Lappeenranta University of Technology, Finland.

Researcher on projects

- 2010 – present **Humanoids with auditory and visual abilities in populated spaces.**
FP7 EU under Project HUMAVIPS FP7-ICT-247525.
- 2005 – 2006 **Principles of Dissimilarity-Based Pattern Recognition in Signals, Symbolic Sequences and Images.**
EU INTAS project PRINCESS 04-77-7347.
- 2004 – 2006 **Cognitive Systems using Perception-Action Learning.**
FP6 EU under Project 004176 COSPAL.
- 2003 – 2005 **Robust and adaptive approaches to scene and object recognition.**
Funded by the Austrian Ministry of Education under Project CONEX GZ 45.535.
- 2004 **European Research Network for Cognitive AI-enabled Computer Vision Systems.** EU FP5 under Project IST-2001-35454.
- 2001, 2003–2004 **Face recognition and detection system.**
Commercial project for Samsung Advanced Institute of Technology.

Principal investigator on projects

- 2009–present **Semi-Supervised Structred Output Learning.**
EU FP7 Marie Curie grant PERG04-GA-2008-239455.
- 2006–2008 **Scalable Online Learning Systems.**
EU FP6 Marie Curie grant MEIF-CT-2006-042107.
- 2000 **Proof of convergence of the EM algorithm for conditionally independent model to the global maximum.**
Funded by the Grant Agency of CTU under Project CTU 0208313.

Awards

- Sept. 5, 2001 **”Young Scientist Award”** for the paper **”A Contribution to the Schlesinger’s Algorithm Separating Mixtures of Gaussian”** presented at 9th International Conference on Computer Analysis of Images and Patterns, 2001, Warsaw, Poland.

Workshop co-organization

- Feb. 3–5, 2010 **Computer Vision Winter Workshop.**
Organizers: V. Franc and L.Špaček.
Funded by the Czech Society for Cybernetics and Informatics
Nove Hradky, Czech Republic
- July 9, 2008 **PASCAL Large-Scale Learning Challenge.**
Organizers: S. Sonnenburg, V. Franc, E. Yom-Tov and M. Sebag.
Adjoint to the International Conference on Machine Learning (ICML’08)
Helsinki, Finland
- Feb. 6–8, 2006 **Computer Vision Winter Workshop.**
Organizers: O. Chum and V. Franc.
Funded by the Czech Society for Cybernetics and Informatics
Telč, Czech Republic

Reviewing

Journals IEEE PAMI, IEEE TNN, IEEE TMI, JMLR, Neurocomputing,
Pattern Recognition
Conferences CVPR, ICCV, ICPR, ICML.

Language skills

Czech: mother tongue
English: fluent

Publications

Journal Papers:

- [Franc09a] V. Franc and S. Sonnenburg. Optimized Cutting Plane Algorithm for Large-Scale Risk Minimization. *Journal of Machine Learning Research*, 10:2157–2192, October 2009.
- [Franc08a] V. Franc and B. Savchynskyy. Discriminative Learning of Max-Sum Classifiers. *Journal of Machine Learning Research*, 9:67–104, January 2008.
- [Franc03a] V. Franc and V. Hlaváč. An iterative algorithm learning the maximal margin classifier. *Pattern recognition*, 36(9):1985–1996, September 2003.
- [Franc02a] V. Franc and V. Hlaváč. A new feature of the statistical pattern recognition toolbox. *Telematik*, 7(3):22–25, September 2001.

Reviewed Conference Papers:

- [Franc08b] V. Franc, P. Laskov and K.-R. Müller. Stopping conditions for exact computation of leave-one-out error in support vector machines. In *Proc. of ICML*. 2008.
- [Franc08c] V. Franc and S. Sönnenburg. Optimized cutting plane algorithm for support vector machines In *Proc. of ICML*. 2008.
- [Rathousky08a] J. Rathousky, M. Urban and V. Franc. Recognition of Text with Known Geometric and Grammatical Structure In *Proc. of VISAPP*. 2008.
- [Posik07a] P. Pošík and V. Franc. Estimation of fitness landscape contours in EAs. In *Proc. of GECCO*. ACM, 2007.
- [Franc07b] V. Franc and S. Sönnenburg. SVM OCAS - Optimized cutting plane algorithm for Support Vector Machines. *NIPS workshop on Efficient Machine Learning*. 2007.
- [Franc05a] V. Franc, V. Hlaváč. Sequential coordinate-wise algorithm for the non-negative least squares problem. In *Proc. of CAIP*. Springer Verlag, 2005.
- [Franc05b] V. Franc and V. Hlaváč. License plate character segmentation using hidden Markov chains. In *Proc. of DAGM*. Springer Verlag, 2005.
- [Franc05c] V. Franc and V. Hlaváč. Simple solvers for large quadratic programming tasks. In *Proc. of DAGM*. Springer Verlag, 2005.

- [Ridder03a] D. De Ridder and V. Franc. Robust subspace mixture models using t -distributions. In *Proc. of BMVC*. BMVA, London, 2003.
- [Hanton03a] K. Hanton, V. Smutný, V. Franc, and V. Hlaváč. Alignment of sewerage inspection videos for their easier indexing. In *Proc. of ICVS*. Springer Verlag, 2003.
- [Franc03b] V. Franc and V. Hlaváč. Greedy algorithm for a training set reduction in the kernel methods. In *Proc. of ICVS*. Springer Verlag, 2003.
- [Franc03c] V. Franc and V. Hlaváč. Training set approximation for kernel methods. In *Proc. of CVWW'03*. Czech Pattern Recognition Society, 2003.
- [Franc03d] V. Franc, V. Hlaváč, and M. Navara. Convergence of the expectation maximization algorithm for the conditionally independent model to the global maximum. In *Proc. CTU Workshop*. CTU Publishing House. 2003.
- [Franc02b] V. Franc and V. Hlaváč. Multi-class Support Vector Machine. In *Proc. of ICPR*. IEEE Computer Society. 2002.
- [Franc02c] V. Franc and V. Hlaváč. Kernel representation of the Kesler construction for multi-class SVM classification. In *Proc. of CVWW'02*. Vienna University of Technology. 2002.
- [Franc01a] V. Franc and V. Hlaváč. A new feature of the statistical pattern recognition toolbox. In *DAGM*. Springer Verlag. 2001.
- [Franc01b] V. Franc and V. Hlaváč. A contribution to the Schlesinger's algorithm separating mixtures of Gaussians. In *Proc. of CAIP*. Springer Verlag. 2001.
- [Franc01c] V. Franc and V. Hlaváč. A simple learning algorithm for maximal margin classifier. In *Proc. of Kernel and Subspace Methods for Computer Vision, ICANN*, Austria, 2001.
- [Franc00a] V. Franc, V. Hlaváč, and M.I. Schlesinger. Linear and quadratic classification toolbox for Matlab. In *Proc. of CVWW*. Czech Pattern Recognition Society. 2000.

Selected Technical Reports:

- [Franc07a] V. Franc and S. Sonnenburg. *Optimized cutting plane algorithm for SVMs*. FIRST Reports 1/2007; Fraunhofer FIRST, Berlin, December 2007.
- [Franc05d] V. Franc. *Optimization Algorithms for Kernel Methods*. PhD thesis, Czech Technical University in Prague, 2005.
- [Franc04a] V. Franc and V. Hlaváč. Statistical pattern recognition toolbox for Matlab. Research Report CTU–CMP–2004–08, FEE CTU, Prague, 2004.
- [Franc02e] V. Franc and J. Matas. An extension of the component-based LDA descriptor by the generalized discriminant analysis. Research Report ISO-IEC-JTC1-SC29WG11-MPEG-8727, ISO/IEC JTC 1/SC 29/WG 11 Moving Picture Experts Group, Washington, USA, 2002.