



Prof. RNDr. Tomáš Skopal, PhD.

Rectorate
Charles University
Ovocný trh 5
116 36 Prague, CZ

tomas.skopal@ruk.cuni.cz

Department of Software Engineering
Faculty of Mathematics and Physics
Charles University, Malostranské nám. 25
118 00 Prague, CZ

tomas.skopal@matfyz.cuni.cz

Research interests

similarity search in unstructured data, multimedia databases, information retrieval, database indexing, content-based retrieval, data representations, analytics and visualization, AI

Professional experience

since 2022 vice-rector for information technologies at Charles University,
2012-2021 head of the Department of Software Engineering,
Faculty of Mathematics and Physics (**MFF**), Charles University (**UK**)
2011-2012 deputy head of the Department of Software Engineering, MFF UK
since 2010 part-time professor at the Department of Software Engineering,
Faculty of Information Technology (**FIT**), Czech Technical University (**ČVUT**), Prague
since 2008 associate and full professor at the Department of Software Engineering, MFF UK
since 2006 founder and head of the SIRET research group at the Dept. of Soft. Eng., MFF UK
2005-2007 assistant professor at the Department of Software Engineering, MFF UK
1998-2002 software developer/analyst/consultant

Stays abroad

2020-2022 visiting professor, University of Passau, Germany (3 semesters)
2016-2017 visiting professor at the Data Analysis and Visualization Group, Department
of Computer and Information Science, University of Konstanz, Germany (6 months)
2011 researcher at the Department of Computer Science, Faculty of Physical and
Mathematical Sciences, University of Chile (3 months)

Education and qualifications

2019 full professor of Computer Science – software systems at Charles University
2007 habilitation in Computer Science – software engineering at Charles University
2001-2004 doctoral studies in Computer Science and Applied Mathematics
at VSB-Technical University of Ostrava, CZ
2004 RNDr. in Computer Science, Faculty of Mathematics and Physics, Charles University
1999-2001 master studies (with honors) in Computer Science at Palacký University, Olomouc, CZ
1996-1999 bachelor studies in Computer Science at Faculty of Science, Palacký University

Research Projects

2022-2024 principal investigator, Czech Science Foundation (**GAČR**) project GAČR 22-21696S,
Deep representations of unstructured data
2021 principal co-investigator, Median and MFF UK research agreement,
EyeMeter – Detection of advertisement in video
2019-2021 principal investigator, Czech Science Foundation (**GAČR**) project 19-01641S,
Contextual similarity search in open data
2017-2019 principal investigator, Czech Science Foundation (**GAČR**) project 17-22224S,
User preference analytics in multimedia exploration models
2013-2014 principal investigator, CISCO Systems and MFF UK research agreement,
Finding similar events within intrusion detection systems
2011-2014 principal investigator, Czech Science Foundation (**GAČR**) project P202/11/0968,
Large-scale nonmetric similarity search in complex domains (evaluated as **excellent**)

- 2009-2011 co-investigator, Czech Science Foundation (**GAČR**) project 201/09/0683,
Similarity searching in very large multimedia databases (evaluated as **excellent**),
2005-2007 principal investigator, Czech Science Foundation (**GAČR**) project 201/05/P036,
Efficient metric search in large multimedia databases (evaluated as **excellent**)

Service

Conference (co-)chair/proceedings editor

SISAP 2022 (Springer, CORE B) in Bologna, MMM 2021 (Springer, CORE B) in Prague, CBMI 2015 (IEEE) in Prague, SISAP 2009 (IEEE, ACM, CORE B) in Prague

Member of conference program committees

CORE A* ICDE 2014, ICDE 2007, ICML 2010

CORE A ER 2008, ENC 2007

CORE B MMM 2018-2022, ADBIS (2017, 2016, 2011, 2005), ECIR 2006, SOFSEM 2005-2007, SISAP 2008-2022

Member of journal editorial board of Information Systems, Elsevier (long-term Q1-Q2), since 2012

Guest editor of Information Systems special issue 36(4), 2011

Reviews for journals with impact factor

ACM Comp. Surv., VLDB Journal, ACM Transactions on Database Systems, ACM Transactions on Information Systems, Computer (IEEE), IEEE Transactions on Knowledge and Data Engineering, Multimedia Tools and Applications (Springer), Data Mining and Knowledge Discovery (Springer), Journal of Real-Time Image Processing (Springer), Computer Science Review (Elsevier), Data & Knowledge Engineering (Elsevier), ACM Journal of Experimental Algorithmics, European Journal of Combinatorics (Elsevier), Information Sciences (Elsevier), ...

Selected publications

In overall, 130 papers in journals and conference proceedings, 110 of which are indexed in the SCOPUS database of Elsevier. Among them, 21 articles in journals with impact factor and additional 63 papers in proceedings of top-tier conferences (1x CORE A*, 13x CORE A, 49x CORE B).

- T. Grošup, L. Peška, T. Skopal. On augmenting database schemas by latent visual attributes. *Knowl. Inf. Syst.* 63(9): 2277-2312, 2021
- T. Skopal. On Visualizations in the Role of Universal Data Representation, ACM ICMR, Dublin, Ireland, ACM, 2020
- R. Bača, M. Krátký, I. Holubová, M. Nečaský, T. Skopal, M. Svoboda, S. Sakr. Structural XML Query Processing, *ACM Computing Surveys*, 50(5), pp.: 64:42, ACM, 2017
- T. Skopal, B. Bustos. On Nonmetric Similarity Search Problems in Complex Domains, *ACM Computing Surveys*, 43(4):34:1–34:50, October 2011
- T. Skopal, J. Lokoč, B. Bustos. D-cache: Universal Distance Cache for Metric Access Methods, *IEEE Trans. on Knowledge and Data Engineering*, 24(5):868–881, 2012
- M. L. Hetland, T. Skopal, J. Lokoc, C. Beecks. Ptolemaic access methods: Challenging the reign of the metric space model, *Information Systems*, 38(7): 989-1006, 2013
- B. Bustos, S. Kreft, T. Skopal. Adapting metric indexes for searching in multi-metric spaces, *Multimedia Tools and Applications*, 58(3):467–496, 2012
- B. Bustos, T. Skopal. Nonmetric similarity search problems in very large collections, ICDE 2011, Hannover, Germany, IEEE, 2011
- T. Skopal, T. Bartoš, J. Lokoč. On (not) indexing quadratic form distance by metric access methods, EDBT 2011, Uppsala, Sweden, ACM, 2011
- J. Lokoč, J. Moško, P. Čech, T. Skopal. On Indexing Metric Spaces using Cut-Regions, *Information Systems*, 43, pp.: 1-19, Elsevier, 2014
- T. Skopal. Unified Framework for Fast exact and approximate search in dissimilarity spaces, *ACM Transactions on Database Systems*, 32(4):29:1–29:47, 2007

Citations

SCOPUS: h-index 17, 655 citations (self-citations excluded), as of February, 2022

Google Scholar: h-index 24, 1850+ citations (including self-citations), as of February, 2022