Curriculum vitae April 23, 2017

Name: Kaski, Samuel
Gender: Male
Date and place of birth: Finland, April 19, 1968
Citizenship: Finland
Current residence: Finland

Education and degrees awarded

Doctor of Science (Technology), Helsinki University of Technology, Computer Science, 1997
Master of Science (Technology), Helsinki University of Technology, Computer Science, 1993

Title of Docent: Computer Science, University of Helsinki, 2005; "Adaptive methods for analyzing large data sets," Helsinki University of Technology, 1999

Linguistic skills

Finnish: Native; English: Proficient; Swedish: Certified proficiency; German: Basic

Current positions

Academy Professor (research professor), Academy of Finland, 2016–2020

Full Professor of Computer Science, Aalto University, 2005–

Director, Finnish Centre of Excellence in Computational Inference Research COIN, 2015–2017

Director, Research Programme on Computational Inference, Helsinki Institute for Information Technology HIIT, 2016–2021

Previous work experience

2016 Visiting Scholar, Monash University, Australia (May-June)
2016 Visiting Scholar, UCL, UK (Jan-March)
2015 Visiting Scholar, Kyoto University (JSPS Invitation Fellowship) (Oct-Dec)
2010–2015 Director, Helsinki Institute for Information Technology HIIT, Aalto University and University of Helsinki
2012–2014 Vice Director, Center of Excellence in Computational Inference
2013 Visiting Scholar, Centre for Computational Statistics and Machine Learning, UCL, UK (May-July)
2012 SICSA Distinguished Visitor, Univ. Glasgow, Univ. St Andrews, Univ. Edinburgh (Jan)
2009–2011 Director of Algorithmic Data Analysis Research Programme of HIIT
2007 Visiting Scholar, European Bioinformatics Institute, Hinxton, UK (Oct-Dec)
2006–2011 Vice Director, Center of Excellence in Adaptive Informatics Research
2004–2005 Professor of Computer Science, University of Helsinki
2004 Invited Professor, Université Paris 1, Panthéon-Sorbonne, France (June)
2001–2004 Academy Research Fellow, Academy of Finland
1999–2001 Professor of Computer Science (pro tem), Helsinki University of Technology
1998–1999 Postdoctoral researcher, Academy of Finland
1997–1998 Junior fellow, Academy of Finland
1995–1997 Researcher (tutkimusassistentti), Academy of Finland
1989–1995 Researcher Assistant and Researcher, Helsinki University of Technology

Research Leadership

Finnish Centre of Excellence in Computational Inference Research COIN: Vice Director 2012–2014; Director 2015–2017.

Director of Helsinki Institute for Information Technology HIIT, Aalto University and University of Helsinki, 2010–2015.

Computational Inference Research Program, Helsinki Institute for Information Technology HIIT: Director 2016–2021.

Algorithmic Data Analysis Research Programme of Helsinki Institute for Information Technology HIIT: Director 2009–2011.

Finnish Centre of Excellence in Adaptive Informatics Research: Vice Director 2006–2011.

Coordinator of 8 research consortia and principal investigator in altogether 31 projects funded by the Academy of Finland, Tekes, Helsinki Univ. Technology, Univ. Helsinki, and EU.

Research Funding

In the last 10 years, the total sum of >5M€ plus Center of Excellence in Computational Inference Research (director).

Supervision

Supervised 19 doctoral dissertations, advisor of 20 postdocs; 6 lab alumni now have faculty positions, the rest are staff members at research institutes, in postdoc positions, entrepreneurs, or in other company positions. Supervised also 65 Master's Theses.

Merits in teaching

Pedagogical training: Program on higher education pedagogy (15 study weeks), Helsinki University of Technology, 2000; Bachelor of Arts (Psychology), University of Helsinki, 2001.

Founding director of Finnish Doctoral Programme in Computational Sciences FICS, 2009–.

Founding partner of Erasmus Mundus Master's Programme in Systems Biology, 2010–.

Responsible for Major Machine Learning and Data Mining, Aalto University, 2015–.

Has been in charge of several Majors in Bioinformatics and Computer Science in University of Helsinki and Aalto University.

Has given numerous courses on bioinformatics, machine learning, computational statistics and data mining, in Helsinki University of Technology, University of Helsinki, and Aalto University, and some in Technical University Graz, Technical University Wien, and Université Paris 1, Panthéon-Sorbonne.

Awards, prizes and honours

Best Paper Awards: ECML 2011, ACM IUI 2013.

Distinguished Contribution Award, MLG'07, The 5th International Workshop on Mining and Learning with Graphs, 2007.

Led TeamFIN which won the NCI-DREAM Drug Sensitivity Prediction Challenge 2012 (Sub-challenge 1: breast cancer)

Group leader, Biocentrum Helsinki, 2014–2016.

Belongs to the research community on Algorithms and Machine Learning which scored at the top of the University of Helsinki Research Evaluation, 2012.

Finnish Centre of Excellence in Computational Inference Research COIN (2012–2017).

Italgaz Prize of Academician Kohonen, 1999 (letter of recognition of collaboration).

Other academic merits

Doctoral thesis committees: Opponent 8 times in Finland; pre-examiner 13 times in Finland; member of dissertation committee 13 times, incl. Univ Rey Juan Carlos, Madrid; NTU, Singapore; Univ Potsdam; NUI Galway; Univ Paris 1; TU Denmark (2 times); Univ Bielefeld; Univ Tartu; K.U. Leuven; École Normale Supérieure, Paris.

Evaluator for Professorships: 10 committees in Aalto Univ, 4 elsewhere in Finland, 4 elsewhere (Europe, US). Evaluator for docent positions: 8 times.

Reviewer of research proposals for the European Research Council (ERC), National Science Foundation (NSF, USA), EU FP7, CoE proposals for the Slovenian Research Agency (ARRS), Engineering and Physical Sciences Research Council (EPSRC, UK), Fund for Scientific Research—Flanders (Belgium), Netherlands Organisation for Scientific Research (NWO), Israel Science Foundation (ISF), Swedish Foundation for Strategic Resarch (SSF), PASCAL EU NoE, Finnish Cultural Foundation, and Fulbright Center.

Scientific societies: Steering committee member, PASCAL 2 (Pattern Analysis, Statistical Modelling, and Computational Leaning) EU FP7 Network of Excellence, 2008–2013. Member of advisory board for European Society for the Artificial Intelligence and Statistics (2010–). Member of the Machine Learning for Signal Processing Technical Committee of the IEEE Signal Processing Society (2002–2004). Member of the Governing Board of the Finnish Artificial Intelligence Society (2000–2002) and the Pattern Recognition Society of Finland (1999–2001). Member of ACM, IEEE, ENNS, ISCB.

Action or associate editor of *Journal of Machine Learning Research JMLR* (2013–), *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2017-), *International Journal of Knowledge Discovery in Bioinformatics* (2009–). Member of the **editorial board** of *Intelligent Data Analysis* (2003–2010); *International Journal of Neural Systems* (2004–2011); *Cognitive Neurodynamics* (2007–); and *Video Journal of Machine Learning Abstracts*, (Vol. 4, 2013). **Guest editor** of special issues of *BMC Bioinformatics* (2007), *Machine Learning* (2009), and *Neurocomputing* (2012).

Chairman of the program committee of *Mathematical and Statistical Aspects of Molecular Biology, 25th Annual MASAMB Workshop, Helsinki, 16-17 April 2015*; *Artificial Intelligence and Statistics, AISTATS 2014, Reykjavik, Iceland*; *International Conference on Artificial Neural Networks, ICANN 2011, Helsinki, Finland*; *Machine Learning for Signal Processing, MLSP 2010, Kittilä, Finland*; *The 6th International Workshop on Mining and Learning with Graphs, MLG'08, Helsinki, Finland*; *Probabilistic Modeling and Machine Learning in Structural and Systems Biology, Tuusula, Finland, 2006*; *NIPS 2005 Workshop on Machine Learning for Implicit Feedback and User Modeling, Whistler, BC, Canada*; and *Finnish Conference on Artificial Intelligence, STeP'02, Oulu, Finland, 2002*.

Area chair (or equiv) in several conferences incl. NIPS 2016–2017, and **member of the program committee** of tens of over 100 scientific conferences, including International Conference on Machine Learning ICML; Uncertainty in Artificial Intelligence UAI; European Conference on Computational Biology ECCB; the ACM SIGKDD Conference on Knowledge Dis-

covery and Data Mining; International Conference on Pattern Recognition ICPR, and the AAAI Conference on Artificial Intelligence.

Referee for 33 scientific journals.

Other expert duties: Member of Scientific Advisory Board of Thematic Research Unit in Systems Biology and Chemical Biology of the GIGA Research center of the Univ. of Liège, 2012–; Novel Materials Discovery (NOMAD) Laboratory, a European Center of Excellence, 2015–; and Center of Excellence BigInsight, Oslo, Norway, 2016–.

Member of steering group for development of graduate studies in Finland (Academy of Finland) 2009–2011. Vice Head of Department of Information and Computer Science, TKK/Aalto, 2008–2010. Member of Governing Board of Biocentrum Helsinki, 2010– and Helsinki Neuroscience planning board (TKK/Aalto and Univ Helsinki) 2009–. Vice member of the Governing Board of Institute for Molecular Medicine Finland FIMM, 2014–2016.

26 invited talks and 10 keynote and plenary talks in international conferences; 10 samples: NNSP01, 11th Workshop on Neural Networks for Signal Processing, Falmouth, MA, 2001; 3rd Conference of the International Society for Ecological Informatics (ISEI), Rome, Italy, 2002; 54th Session of the International Statistical Institute (ISI), Berlin, 2003; 16th Scandinavian Conference on Image Analysis (SCIA), Oslo, Norway, 2009; EMMDS 2009, European Workshop on Challenges in Modern Massive Data Sets, Copenhagen, Denmark, 2009; NIPS 2010 Workshop on Challenges of Data Visualization, Whistler, BC, Canada; ICML2012 Workshop on Machine Learning in Genetics and Genomics MLGG, 2012, Edinburgh, Scotland; Workshop on Machine Learning in Computational Biology at NIPS 2013, Lake Tahoe, NV; Information-Based Induction Sciences IBIS2015, Tsukuba, Japan, 2015; IDA 2016, The 15th International Symposium on Intelligent Data Analysis, Stockholm, Sweden, 2016.

Scientific and societal impact of research

240 peer-reviewed scientific articles. Google Scholar h-index 50, i10-index 160 (data of April 23, 2017). Full list at `https://users.ics.aalto.fi/sami/kaski_publ.pdf`

Co-founder of two spin-off companies; member of the scientific advisory board of three startups; former students have additionally founded startups.

Listed among 100 Finnish opinion leaders in information technology in 2010 (Tietoviikko).

The research has been covered by Finnish national TV, Russian State TV, Financial Times Deutschland, Helsingin Sanomat, Huvudstadsbladet, IT-viikko, Tekniikka & Talous, Tiede (Finnish science magazine) and several more specialized channels. A recent press release on interactive intent modeling was covered by 89 venues.

Service in society

Chairman of Board of Directors, CSC - IT Center for Science, 2012–2015. Member of the Advisory Board of Statistics Finland, 2015–.