

Selected Publications

Books

- A. Gammerman, (ed.) Probabilistic Reasoning and Bayesian Belief Networks. Alfred Waller, Henley-on-Thames, 1995.
- A. Gammerman, (ed.) Computational Learning and Probabilistic Reasoning. John Wiley & Sons, Chichester, 1996.
- A. Gammerman. Machine Learning: Progress and Prospects. ISBN 0 900145 93 5, 1997.
- A. Gammerman, (ed.) Causal Models and Intelligent Data Management. Springer-Verlag, 1999.
- V.Vovk, A.Gammerman and G.Shafer. Algorithmic learning in a random world. New York: Springer, 2005.
- A.Gammerman, (ed.) Artificial Intelligence and Applications, Proceedings of the Conference, ACTA Press, ISBN: 978-0-88986-709-3, 2008.

Special Issues of Journals

- A.Gammerman and V.Vovk (editors). Special Issue on Kolmogorov Complexity. *The Computer Journal*, vol. 42, no. 4, pp.254-347, (1999).
- C. Aitken, T. Connolly, A. Gammerman, G. Zhang, D. Oldfield. Predicting an Offender's Characteristics: an evaluation of statistical modelling. *Special Interest Series - Paper 4*, Home Office, London, 1995.
- Alex Gammerman, Ilia Nouretdinov, Brian Burford Alexey Chervonenkis, Vladimir Vovk and Zhiyuan Luo. Clinical Mass Spectrometry Proteomic Diagnosis by Conformal Predictors. *Statistical Applications in Genetics and Molecular Biology Journal*, Volume 7, Issue 2 2008 Article 13, 2008.

Refereed Book Chapters, Journal Papers, Conference Proceedings

- On-line predictive linear regression. *Annals of Statistics*, Volume 37, Number 3 (2009), 1566-1590 (with V.Vovk and I.Nouretdinov). Permanent link to this document: <http://projecteuclid.org/euclid.aos/1239369032> Digital Object Identifier: doi:10.1214/08-AOS622
- Conditional prediction intervals for linear regression. 8th International Conference on Machine Learning and Applications - ICMLA 2009, Miami, Florida, 2009, (with V.Vovk, P.McCullagh, I.Nouretdinov and D.Devetyarov).

- Machine Learning classification with confidence: application of transductive conformal predictors to MRI-based diagnostic and prognostic markers in depression. Submitted to NeuroImage Journal, (with I.Nouretdinov, S.Costafreda, A.Chervonenkis, V.Vovk, V.Vapnik and C.Fu).
- Application of Inductive Confidence Machine to ICMLA-competition data. 8th International Conference on Machine Learning and Applications - ICMLA 2009, Miami, Florida, 2009, (with I.Nouretdinov and D.Devetyarov).
- Detection and Abundance Estimation of Material Classes from Airborne from LWIR Hyperspectral Data. EMRS DTC 6th Conference, Edinburgh, 2009 (with R.J.Richards and I.Nouretdinov).
- Confidence Machine and its application to Medical Diagnosis; Int.Conf.on Biological Computing (BioComp09), (with D.Devetyarov and I. Nouretdinov). July 2009, USA.
- Proteomics analysis of ovarian cancer serum samples (Part 1): Peptides generated ex vivo from abundant serum proteins by tumour-specific exopeptidases are not useful biomarkers in ovarian cancer. Ali Tiss, Celia Smith, Dmitry Devetyarov, Aleksandra Gentry-Maharaj, Stephane Camuzeaux, Brian Burford, Ilia Nouretdinov, Jeremy Ford, Zhiyuan Luo, John F. Timms, Ian Jacobs, Usha Menon and Rainer Cramer. Submitted to Clinical Chemistry.
- Proteomics analysis of ovarian cancer serum samples (Part 2): Serum MALDI-TOF MS profiling and CA125 immunoassay as diagnostic tools. John F. Timms¹, Rainer Cramer, Stephane Camuzeaux, Ali Tiss, Celia Smith, Brian Burford, Ilia Nouretdinov, Musarat Kabir, Aleksandra Gentry-Maharaj, Jeremy Ford, Zhiyuan Luo, Alex Gammerman, Usha Menon¹ and Ian Jacobs. Submitted to Clinical Chemistry.
- Online Prediction of Ovarian Cancer. Fedor Zhdanov, Vladimir Vovk, Brian Burford, Dmitry Devetyarov, Ilia Nouretdinov and Alex Gammerman. Lecture Notes in Computer Science Volume 5651/2009 Artificial Intelligence in Medicine DOI 10.1007/978-3-642-02976-9; 2009.
- Cancer informatics by prototype networks in mass spectrometry. Artificial Intelligence in Medicine 45(2-3): 215-228, 2009, (with F- M. Schleif, T. Willmann, M. Kostrzewa, B. Hammer).
- Confidence Predictions for the Diagnosis of Acute Abdominal Pain. In L. Iliadis, I. Vlahavas and M. Bramer (Eds.), Artificial Intelligence Applications & Innovations III, Volume 296 of IFIP International Federation for Information Processing, 175 - 184. Springer, 2009 (with H.Papadopoulos and V.Vovk).

- Serum proteomic abnormality predating screen detection of ovarian cancer (with V.Vovk, B.Burford, I.Nouretdinov, Z.Luo, A.Chervonenkis, M.Waterfield, R.Cramer, P.Tempst, J.Villanueva, M.Kabir, S.Camuzeaux, J.Timms, U.Menon and I.Jacobs). *The Computer Journal Advance Access* first published online on April 4, 2008 This version published online on April 9, 2008. *The Computer Journal*, doi:10.1093/comjnl/bxn021
- Predicting clinical outcome in patients diagnosed with synchronous ovarian and endometrial cancer. Ramus SJ, Elmasry K, Luo Z, Gammerman A, Lu K, Ayhan A, Singh N, McCluggage WG, Jacobs IJ, Whittaker JC, and Gayther SA *Clinical cancer research : an official journal of the American Association for Cancer Research* 14(18):5840-8, 2008 Sep 15
- Adaptive Coding and Prediction of Sources with Large and Infinite Alphabets, *IEEE Transaction on Information Theory*, v.54, No.8, pp.3808–3813, August 2008 (with B.Ryabko and J.Astola).
- The Kernel Aggregating Algorithm for Regression. Submitted to *Machine Learning journal* (with S.Busutill, Y.Kalnishkan and V.Vovk)
- Normalized Nonconformity Measures for Regression Conformal Prediction. *Artificial Intelligence and Applications - AIA 2008 Conference*, Innsbruck, Austria, pp.64-69, 2008. (with H. Papadopoulos and V. Vovk).
- H. Papadopoulos, V. Vovk and A. Gammerman. Regression Conformal Prediction with Nearest Neighbours. Submitted to the *Journal of Artificial Intelligence Research*.
- A. Lambrou, H. Papadopoulos and A. Gammerman. Evolutionary Conformal Prediction for Breast Cancer Diagnosis. Submitted to the 9th International Conference on Information Technology and Applications in Biomedicine (ITAB'09).
- Hedging Predictions in Machine Learning. *The Computer Journal*, v.50, No.2, 151-163, March 2007 (with V.Vovk). The same journal also published:
 - i) Discussion on Hedging Predictions in Machine Learning by A. Gammerman and V. Vovk. *The Computer Journal*, 2007, 50: 164-172;
 - ii) Rejoinder Hedging Predictions in Machine Learning. *The Computer Journal*, 2007, 50: 173-177.
- H. Papadopoulos, V. Vovk and A. Gammerman. Conformal Prediction with Neural Networks. In *Proceedings of the 19th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'07)*, Volume 2, 388 - 395. IEEE Computer Society, 2007.
- Improving the Aggregating Algorithm for Regression. *Artificial Intelligence and Applications*, In *Proceedings of the 25th IASTED Conference Artificial Intelligence and Applications (AIA 2007)*, pp.347–352,

Innsbruck, Austria, (2007), Editor: V.Devedzic (with S.Busutill and Y.Kalnishkan).

- Preanalytic Influence of Sample Handling on SELDI-TOF Serum Protein Profiles *Clinical Chemistry*, **53**, 645–656, April 2007, (with John F. Timms, Elif Arslan-Low, Aleksandra Gentry-Maharaj, Zhiyuan Luo, Davy T.Jampens, Vladimir N. Podust, Jeremy Ford, Eric T. Fung, Ian Jacobs, and Usha Menon).
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- Reliable classification of childhood acute leukaemia from gene expression data using Confidence Machines. *IEEE International Conference on Granular Computing*, Atlanta, USA, 2006 (with Z.Luo and A.Bellotti).
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- Qualified Probabilistic Predictions using Graphical Models, In L. Godo (eds) *ECSQARU 2005, Lecture Notes in Artificial Intelligence 3571*, pp. 111-122, Springer-Verlag Berlin Heidelberg, August 2005 (with Z.Luo).
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- Prediction algorithms and confidence measures based on algorithmic randomness theory, *Theoretical Computer Science*, 287 (2002) 209-217 (with V.Vovk).
- Qualified Predictions for Large Data Sets in the Case of Pattern Recognition. In: *Proceedings of the International Conference on Machine Learning and Applications (ICMLA'02)*, 2002, pp.159-163, CSREA Press (with Harris Papadopoulos, Kostas Proedrou and Volodya Vovk).
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Patents

Data classification apparatus and method thereof (with V. Vovk).

- European Patent Application No. 99 954 200.4: the application was allowed in July 2004.
- US Patent Application No. 09/831,262: allowed; (with V.Vovk).
- *Data labelling apparatus and method thereof*. UK Patent Application GB 0017740.2: pending.

Selected Technical Reports

- Theory of SV machines (joint work with M. O. Stitson, J. Weston, V. Vovk and V. Vapnik). Technical Report CSD-TR-96-17, Department of Computer Science, Royal Holloway, University of London, December 1996.
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