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EDUCATION	<i>Bachelor of Science</i> , Computer Engineering, Boğaziçi University, 1987	
	<i>Docteur ès Sciences</i> , Computer Engineering, <i>Neural Models of Incremental Supervised and Unsupervised Learning</i> , Ecole Polytechnique Fédérale de Lausanne, Switzerland, 1990	
EXPERIENCE	<i>Postdoctoral Researcher</i> International Computer Science Institute, Berkeley CA, USA	Mar–Aug 1991
	<i>Assistant Professor</i> <i>Associate Professor</i> <i>Professor</i> Department of Computer Engineering, Boğaziçi University, Istanbul, Turkey	Sep 1991–1996 1996–2002 2002–Feb 2019
	<i>Professor</i> Department of Computer Engineering, Özyeğin University, Istanbul, Turkey	May 2019–Jan 2026
MEMBERSHIP	The Science Academy, Istanbul	2012–
	Academia Europaea (The Academy of Europe)	2023–
VISITING POSITIONS	Department of Brain and Cognitive Sciences, MIT, USA	Sep–Dec 1994
	International Computer Science Institute, Berkeley CA, USA (As a Fulbright Senior Scholar)	Sep 1997–Jan 1998
	IDIAP, Martigny, Switzerland	Feb–May 1998
	Pattern Recognition Laboratory, TU Delft, The Netherlands	Apr–Aug 2014
AWARDS	Fulbright Senior Scholar	1997
	Boğaziçi University Foundation Research Excellence Award (junior faculty)	1998
	Turkish Academy of Sciences Distinguished Young Scientist Award	2001
	Turkish Scientific and Technical Research Council Scientific Encouragement Award	2002

Boğaziçi University Foundation 2008
Research Excellence Award (senior faculty)

EDITORSHIP The Computer, Oxford University Press 2008–2014
Editorial Board Member

Pattern Recognition, Elsevier 2014–2018
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**PUBLICATIONS:
BOOKS**

1. E. Alpaydm (2004) *Introduction to Machine Learning*, Cambridge, MA: MIT Press.

(2005) Reprint, Prentice-Hall, India.

(2008) German edition, *Maschinelles Lernen*, Oldenbourg Verlag.

(2010) Chinese edition, China Machine Press - Beijing Huazhang Graphics & Information Co. Ltd.

(2010) Second edition.

(2010) Reprint, PHI Learning Pvt. Ltd India.

(2011) Turkish edition *Yapay Öğrenme*, Boğaziçi Üniversitesi Yaymevi.

(2014) Chinese edition, China Machine Press - Beijing Huazhang Graphics & Information Co. Ltd.

(2014) Third edition.

(2015) Reprint, PHI Learning Pvt. Ltd India.

(2016) Chinese edition, China Machine Press - Beijing Huazhang Graphics & Information Co. Ltd.

(2019) German edition *Maschinelles Lernen*, De Gruyter.

(2020) Fourth edition.

(2021) Chinese edition, China Machine Press - Beijing Huazhang Graphics & Information Co. Ltd.

(2022) German edition *Maschinelles Lernen*, De Gruyter.

2. E. Alpaydm (2016) *Machine Learning: The New AI*, Essential Knowledge Series, Cambridge, MA: MIT Press.

Japanese, Russian, Korean, Taiwanese, Turkish, Croatian editions have been published.

(2021) *Machine Learning: Revised and Updated Edition*.

Finnish edition has been published.

3. E. Alpaydm (2025) *Fundamentals of Probability and Statistics for Machine Learning*, Cambridge, MA: MIT Press.

**JOURNAL
PAPERS**

1. O. İrsoy, E. Alpaydm (2021) “Dropout Regularization in Hierarchical Mixture of Experts,” *Neurocomputing*, 419, 148–156.

2. U. Mutlu, E. Alpaydm (2020) “Training Bidirectional Generative Adversarial Networks with Hints,” *Pattern Recognition*, 103, 107320.

3. O. İrsoy, E. Alpaydın (2020) “Continuously Constructive Deep Neural Networks,” *IEEE Transactions on Neural Networks and Learning Systems*, 31(4), 1124–1133.
4. O. İrsoy, E. Alpaydın (2017) “Unsupervised Feature Extraction with Autoencoder Trees,” *Neurocomputing*, 258, 63–73.
5. E. Alpaydın, V. Cheplygina, M. Loog, D.M.J. Tax (2015) “Single vs. Multiple-Instance Classification,” *Pattern Recognition*, 48(9), 2831–2838.
6. M. Gönen, E. Alpaydın (2013) “Localized Algorithms for Multiple Kernel Learning,” *Pattern Recognition*, 46, 795–807.
7. E. Dikici, M. Semerci, M. Saraçlar, E. Alpaydın (2013) “Classification and Ranking Approaches to Discriminative Language Modeling for ASR,” *IEEE Transactions on Audio, Speech, and Language Processing*, 21(2), 291–300.
8. O. İrsoy, O. T. Yıldız, E. Alpaydın (2012) “Design and Analysis of Classifier Learning Experiments in Bioinformatics: Survey and Case Studies,” *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 9(6), 1663–1675.
9. A. Ulaş, O. T. Yıldız, E. Alpaydın (2012) “Eigenclassifiers for Combining Correlated Classifiers,” *Information Sciences*, 187, 109–120.
10. A. Ulaş, O. T. Yıldız, E. Alpaydın (2012) “Cost-Conscious Comparison of Supervised Learning Algorithms over Multiple Data Sets,” *Pattern Recognition*, 45(4), 1772–1781.
11. M. Gönen, E. Alpaydın (2011) “Multiple Kernel Learning Algorithms,” *Journal of Machine Learning Research* 12, 2221–2268.
12. E. Alpaydın (2011) “Machine Learning,” *Wiley Interdisciplinary Reviews: Computational Statistics*, 3, 195–203.
13. O. Kurşun, E. Alpaydın, O. Favorov (2011) “Canonical Correlation Analysis using Within-Class Coupling,” *Pattern Recognition Letters*, 32, 134–144.
14. M. Gönen, E. Alpaydın (2011) “Regularizing Multiple Kernel Learning using Response Surface Methodology,” *Pattern Recognition*, 44, 159–171.
15. M. Gönen, E. Alpaydın (2010) “Supervised Learning of Local Projection Kernels,” *Neurocomputing*, 73(10-12), 1694–1703.
16. M. Gönen, E. Alpaydın (2010) “Cost-Conscious Multiple Kernel Learning,” *Pattern Recognition Letters*, 31(9), 959–965.
17. A. Özen, M. Gönen, E. Alpaydın, T. Haliloğlu (2009) “Machine Learning Integration for Predicting the Effect of Single Amino Acid Substitutions on Protein Stability,” *BMC Structural Biology*, 9(66).
18. O. Aran, O. T. Yıldız, E. Alpaydın (2009) “An Incremental Framework Based on Cross-Validation for Estimating the Architecture of a Multilayer Perceptron,” *International Journal of Pattern Recognition and Artificial Intelligence*, 23(2), 159–190.
19. A. Ulaş, M. Semerci, O. T. Yıldız, E. Alpaydın (2009) “Incremental Construction of Classifier and Discriminant Ensembles,” *Information Sciences*, 179(9), 1298–1318.
20. M. Gönen, A. G. Tanuğur, E. Alpaydın (2008) “Multi-Class Posterior Probability Support Vector Machines,” *IEEE Transactions on Neural Networks*, 19(1), 130–139.
21. B. Gökberk, M. O. İrfanoğlu, L. Akarun, E. Alpaydın (2007) “Learning the Best Subset of Local Features for Face Recognition,” *Pattern Recognition*, 40(5), 1520–1532.

22. O. T. Yıldız, E. Alpaydın (2006) “Ordering and Finding the Best of $K > 2$ Supervised Learning Algorithms,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 28(3), 392–402.
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24. O. T. Yıldız, E. Alpaydın (2005) “Linear Discriminant Trees,” *International Journal of Pattern Recognition and Artificial Intelligence*, 19(3), 323–353.
25. A. Salah, E. Alpaydın, L. Akarun (2002) “A Selective Attention Based Method for Visual Pattern Recognition with Applications to Handwritten Digit Recognition and Face Recognition,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 24(3), 420—425.
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28. O. T. Yıldız, E. Alpaydın (2001) “Omnivariate Decision Trees,” *IEEE Transactions on Neural Networks*, 12, 1539–1546.
29. F. Alimoğlu, E. Alpaydın (2001) “Combining Multiple Representations for Pen-based Handwritten Digit Recognition,” *Elektrik: Turkish Journal of Electrical Engineering and Computer Sciences*, 9, 1–12.
30. E. Alpaydın (1999) “Combined 5×2 cv F Test for Comparing Supervised Classification Learning Algorithms,” *Neural Computation*, 11(8), 1885–1892.
31. İ. Bayraktaroğlu, A. S. Öğrenci, G. Dündar, S. Balkır, E. Alpaydın (1999) “ANNSyS: An Analog Neural Network Synthesis System,” *Neural Networks*, 11, 325–338.
32. E. Alpaydın, C. Kaynak (1998) “Cascading Classifiers,” *Kybernetika*, 34, 369–374.
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3. A. Ahmetoğlu, O. İrsoy, E. Alpaydın (2018) “Convolutional Soft Decision Trees,” *International Conference on Artificial Neural Networks (ICANN)*, Rhodes.
4. E. Emekligil, E. Alpaydın (2018) “What’s in a Game? The Effect of Game Complexity on Deep Reinforcement Learning,” *Computer Games Workshop: International Joint Conference on Artificial Intelligence (IJCAI)*, Stockholm.
5. C. Zor, B. Yanıkoğlu, E. Merdivan, T. Windeatt, J. Kittler, E. Alpaydın (2016) “Beam ECOC: A Local Search for the Optimization of the ECOC Matrix,” *International Conference on Pattern Recognition (ICPR)*, Cancun.
6. O. İrsoy, E. Alpaydın (2015). “Autoencoder Trees,” *Asian Conference on Machine Learning (ACML)*, Hong Kong.
7. O. İrsoy, O. T. Yıldız, E. Alpaydın (2014) “Budding Trees,” *International Conference on Pattern Recognition (ICPR)*, Stockholm.
8. O. T. Yıldız, E. Alpaydın (2013) “Regularizing Soft Decision Trees,” *International Symposium on Computer and Information Sciences (ISCIS)*, Paris.
9. M. Semerci, E. Alpaydın (2013) “Mixtures of Large Margin Nearest Neighbor Classifiers,” *European Conference on Machine Learning (ECML)*, Prague.
10. O. İrsoy, O. T. Yıldız, E. Alpaydın (2012) “Soft Decision Trees,” *International Conference on Pattern Recognition (ICPR)*, Tsukuba.
11. O. T. Yıldız, E. Alpaydın (2012) “Statistical Tests using Hinge/Epsilon-Sensitive Loss,” *International Symposium on Computer and Information Sciences (ISCIS)*, Paris.
12. O. T. Yıldız, Ö. Aslan, E. Alpaydın (2011) “Multivariate Statistical Tests for Comparing Classification Algorithms,” LION, Rome (best paper award).
13. M. Gönen, E. Alpaydın (2010) “Localized Multiple Kernel Regression,” *International Conference on Pattern Recognition (ICPR)*, Istanbul.
14. O. Kurşun, E. Alpaydın (2010) “Canonical Correlation Analysis for Multiview Semisupervised Feature Extraction,” *International Conference on Artificial Intelligence and Soft Computing (ICAISC)*, Zakopane.
15. M. Gönen, E. Alpaydın (2009) “Multiple Kernel Machines Using Localized Kernels,” *Pattern Recognition in Biology*, Sheffield.
16. M. Gönen, E. Alpaydın (2008) “Localized Multiple Kernel Learning,” *International Conference on Machine Learning (ICML)*, Helsinki.
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18. A. A. Salah, E. Alpaydın (2004) “Incremental Mixtures of Factor Analyzers,” *International Conference on Pattern Recognition (ICPR)*, Cambridge.
19. Z. Barutçuoğlu, E. Alpaydın (2003) “A Comparison of Model Aggregation Methods for Regression,” *International Conference on Artificial Neural Networks (ICANN)*, Istanbul.
20. B. Gökberk, L. Akarun, E. Alpaydın (2002) “Feature Selection for Pose Invariant Face Recognition,” *International Conference on Pattern Recognition (ICPR)*, Quebec City.

21. F. Köksal, E. Alpaydın, G. Dünder (2001) "Weight Quantization for Multilayer Perceptrons using Soft Weight Sharing," *International Conference on Artificial Neural Networks (ICANN)*, Vienna.
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23. E. Alpaydın (2001) "Assessing and Comparing Classification Algorithms," *International Symposium on Adaptive Systems: Evolutionary Computation and Graphical Models*, Havana.
24. E. Alpaydın, C. Kaynak, F. Alimoğlu (2000) "Cascading Multiple Classifiers and Representations for Optical and Pen-based Handwritten Digit Recognition," *International Workshop on Frontiers in Handwriting Recognition*, Amsterdam.
25. C. Kaynak, E. Alpaydın (2000) "MultiStage Cascading of Multiple Classifiers: One Man's Noise is Another Man's Data," *International Conference on Machine Learning (ICML)*, Stanford, CA.
26. O. T. Yıldız, E. Alpaydın (2000) "Linear Discriminant Trees," *International Conference on Machine Learning (ICML)*, Stanford, CA.
27. E. Alpaydın, E. Mayoraz (1999) "Learning Error-Correcting Output Codes from Data," *International Conference on Artificial Neural Networks (ICANN)*, Edinburgh.
28. E. Mayoraz, E. Alpaydın (1999) "Support Vector Machines for Multi-Class Classification," *International Work-Conference on Artificial Neural Networks (IWANN): Engineering Applications of Bio-Inspired Artificial Neural Networks*, Alicante.
29. E. Alpaydın (1998) "Techniques for Combining Multiple Learners," *Engineering of Information Systems (EIS)*, Tenerife.
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31. C. Kaynak, E. Alpaydın (1997) "Multistage Classification by Cascaded Classifiers," *IEEE International Symposium on Intelligent Control*, Istanbul.
32. E. Alpaydın, C. Kaynak (1997) "Cascaded Classifiers," *International Workshop on Statistical Techniques in Pattern Recognition (STIPR)*, Prague.
33. F. Alimoğlu, E. Alpaydın (1997) "Combining Multiple Representations and Classifiers for Pen-based Handwritten Digit Recognition," *International Conference on Document Analysis and Recognition (ICDAR)*, Ulm.
34. L. Akarun, D. Özdemir, E. Alpaydın (1997) "Fuzzy Error Diffusion of Color Images," *International Conference on Image Processing (ICIP)*, Santa Barbara CA.
35. E. Alpaydın (1996) "Combining Global vs Local Linear Perceptrons for Classification," *Intelligent Industrial Automation and Soft Computing*, Reading UK.
36. E. Alpaydın (1996) "'Soft' Vector Quantization," *Intelligent Industrial Automation and Soft Computing*, Reading UK.
37. F. Gürgen, M. Şihmanoğlu, E. Alpaydın (1996) "Learning Speech Dynamics by Neural Networks with Delay Elements," *International Conference on Telecommunications*, Istanbul.

38. E. Alpaydm (1995) "Selective Attention for Handwritten Digit Recognition," *Advances in Neural Information Processing Systems 8*, Denver CO.
39. M. Okatan, L. Akarun, E. Alpaydm (1995) "Feature-Based Neural Network Face Recognition," *International Conference on Recent Advances in Mechatronics*, Istanbul.
40. E. Alpaydm (1993) "Multiple Networks for Function Learning," *IEEE International Conference on Neural Networks*, San Francisco CA.
41. E. Alpaydm (1993) "Improved Classification Accuracy by Training Multiple Models and Taking a Vote," *Italian Workshop on Neural Networks*, Vietri.
42. E. Alpaydm (1992) "Multiple Neural Networks and Weighted Voting," *International Conference on Pattern Recognition (ICPR)*, The Hague.
43. E. Alpaydm (1990) "Learning Logic Array," *International Joint Conference on Neural Networks*, Washington DC.
44. E. Alpaydm (1990) "Why are Neural Networks? Will we have Neural Instruction Multiple Data Machines?" *Annual Symposium on Parallel Processing*, Fullerton CA.
45. E. Alpaydm (1990) "Grow and Learn: An Incremental Method for Category Learning," *International Neural Network Conference*, Paris.
46. E. Alpaydm (1989) "Why an 'A' is an 'A'?" *European Conference on System Science*, Lausanne.
47. E. Alpaydm (1989) "Optical Character Recognition using Artificial Neural Networks," *IEE International Conference on Artificial Neural Networks*, London UK.
48. E. Alpaydm, P. Marchal (1989) "Snark: A Neural Optical Character Reader," *Connectionism in Perspective*, Zürich.

**EDITED
PROCEEDINGS**

1. O. Kaynak, E. Alpaydm, E. Oja, L. Xu (2003) *Artificial Neural Networks and Neural Information Processing – (ICANN/ICONIP)*, Lecture Notes in Computer Science Vol 2714, Springer.
2. E. Alpaydm (1998) *Proceedings of the ICSC Symposium on Engineering of Intelligent Systems*, ICSC Press. CDROM version coedited by C. Fyfe.

**PAPERS IN
EDITED
VOLUMES**

1. E. Alpaydm (2018) "Classifying Multimodal Data," *The Handbook of Multimodal-Multisensor Interfaces Vol 2: Signal Processing, Architectures, and Detection of Emotion and Cognition*, S. Oviatt, B. Schüller, (Ed.), 49–69, ACM Press.
2. O. T. Yıldız, O. İrsoy, E. Alpaydm (2016) "Bagging Soft Decision Trees," *Machine Learning for Health Informatics*, A. Holzinger (Ed.), 25–36, Springer.
3. E. Alpaydm, F. Gürgen (1998) "Comparison of Statistical and Neural Classifiers and their Applications to Optical Character Recognition and Speech Classification," *Image Processing and Pattern Recognition Vol 5 of Neural Network Systems Techniques and Applications*, C. T. Leondes (Ed.), Academic Press, 61–88.
4. R. Alpaydm, U. Ünlüakın, F. Gürgen, E. Alpaydm (1995) "Distributed and Local Neural Classifiers for Phoneme Recognition," *Speech Recognition and Coding: New Advances and Trends*, A. J. Rubia Ayuso, J. M. Lopez Soler (Ed.) NATO ASI Series, 485–488.

5. E. Alpaydın (1995) “Multiple Neural Experts for Improved Decision Making,” *The Biology and Technology of Intelligent Autonomous Agents*, L. Steels (Ed.) NATO ASI Series, Springer, 451–458.
6. E. Alpaydın (1993) “Single and Multiple Memory-Based Neural Networks for Efficient Function Approximation,” *Intelligent Systems: Safety, Reliability and Maintainability*, O. Kaynak, G. Honderd, E. Grant (Ed.) NATO ARW Series, Springer, 194–204.
7. E. Alpaydın (1990) “What is a Feature that it may Define a Character and a Character that it may be Defined a Feature ?” *Neurocomputing: Algorithms, Architectures, and Applications*, F. Fogelman-Soulie, J. Hérault (Ed.), NATO ASI Series, Springer, 329–332.

**SUPERVISED
PhD**

1. Cenk Kaynak, “Cascading for Combining Multiple Classifiers,” 2002.
2. Olcay Taner Yıldız, “Tuning Model Complexity using Cross-Validation for Supervised Learning,” 2005.
3. Aydın Ulaş, “Incremental Construction of Cost-Conscious Ensembles Using Multiple Learners and Representations in Machine Learning,” 2009.
4. Mehmet Gönen, “Localized Multiple Kernel Algorithms for Machine Learning,” 2010.

MSc

1. Mehmet N. Yağcı, “Comparative Investigation of Selective Attention in Visual Recognition,” 1993.
2. Selami Aratma, “Memory Based Function Approximation using Neural Networks,” 1993.
3. Hakan Aygün, “Integrated Segmentation and Recognition of Handwritten Digits,” 1995.
4. Cenk Kaynak, “Methods of Combining Multiple Classifiers and their Applications to Handwritten Digit Recognition,” 1995.
5. Cüneyt A. Genç, “Smoothing Additive Splines for Multivariate Function Approximation,” 1995.
6. Nazife Dimililer, “Earthquake Prediction using Neural Networks,” 1995.
7. Fevzi Alimoğlu, “Combining Multiple Classifiers for Pen-Based Handwritten Digit Recognition,” 1996.
8. Altuğ Seven, “Small Vocabulary Word and Speaker Recognition using Artificial Neural Networks,” 1997.
9. Olcay Kurşun, “Variable Sized Input Multilayer Perceptrons for Speech Recognition,” 2000.
10. Olcay T. Yıldız, “Multivariate Decision Trees for Machine Learning,” 2000.
11. Fatih Köksal, “Weight Quantization for Multilayer Perceptrons,” 2000.
12. A. Ali Salah, “A Selective Attention Based Method for Recognition of Optical Handwritten Digits,” 2000.
13. Özge N. Bayraktar, “Feature and Classifier Combination Methods for Detection of Faulty Electric Motors,” 2001.
14. Ersin Başaran, “Unsupervised Clustering and its Application to Discovery of Motifs in Protein Sequences,” 2001.
15. Çiğdem Gündüz, “Value of Representation in Pattern Recognition,” 2001.

16. M. Aydın Ulaş, “Market Basket Analysis for Data Mining,” 2001.
17. Oya Aran, “Incremental Neural Network Construction for Training Multilayer Perceptrons,” 2002.
18. Zafer Barutçuoğlu, “Rex Algorithm for Learning Rules and Exceptions for Regression,” 2003.
19. Burak Turhan, “Nonlinear Dimensionality Reduction Methods for Pattern Recognition,” 2004.
20. Arzucan Özgür, “Supervised and Unsupervised Machine Learning Techniques for Text Document Categorization,” 2004.
21. Esmâ Kılıç, “Selecting from an Ensemble of Experts for Machine Learning,” 2007.
22. Murat Semerci, “Discriminant Ensembles and Error Analysis of Classifier Fusion Rules,” 2007.
23. Özlem Aslan, “Statistical Methods for ROC/AUC Comparison in Machine Learning,” 2009.
24. Pınar Yanardağ, “An Interactive Web-Based Machine Learning Suite,” 2010.
25. Göker Erdoğan, “Spectral Methods for Outlier Detection for Machine Learning,” 2012.
26. Erdem Emekligil, “The Effect of Game Complexity on Deep Reinforcement Learning,” 2018.
27. Uras Mutlu, “Training Bidirectional Generative Adversarial Networks with Hints,” 2019.
28. Burak Dündar, “Learning Word Representations with Deep Neural Networks for Turkish,” 2019.
29. Alper Ahmetoğlu, “Hierarchical Mixtures of Generators for Generative Adversarial Networks,” 2019.