

Aniko Ekárt
Professor
Computer Science Research Group
College of Engineering and Physical Sciences
Computer Science
Computer Science
Type of address: Postal address.
School of Engineering and Applied Science, Aston University
B4 7ET
Birmingham
United Kingdom
Email: ekarta@aston.ac.uk

Research Interests

My research interests are in the broad area of Artificial Intelligence Techniques. More specifically, I am interested in computational intelligence, theory and applications of genetic programming and evolutionary computation. I am also involved in evolutionary art, where the personal aesthetic preference is modelled and followed by evolutionary methods. Additionally, I am interested in data mining for engineering, design and health areas. More recently, I have started contributing to social learning and trust in AI.

Employment

Computer Science Research Group
College of Engineering and Physical Sciences
21 Feb 2012 → present

College of Engineering and Physical Sciences
Birmingham, United Kingdom
1 Jan 2006 → present

Professor
Computer Science
College of Engineering and Physical Sciences
1 Aug 2022 → present

Reader
Computer Science
College of Engineering and Physical Sciences
1 Aug 2018 → present

Guest editor for Special Issue of the IEEE Transactions on Games journal on Evolutionary Computation for Games
IEEE
Bangalore, India
1 Jan 2021 → present

Partner Editor for Evolutionary Computation, Springer Nature Computer Science
Springer Publishing
Heidelberg, Germany
1 Jan 2021 → present

Associate Editor, International Journal of Virtual and Augmented Reality
IGI Global
1 Jan 2017 → present

Editorial Board Member, Genetic Programming and Evolvable Machines journal
Springer

1 Jan 2012 → present

Research outputs

Predicting Normal and Anomalous Urban Traffic with Vectorial Genetic Programming and Transfer Learning

Hamilton, J. R., Ekárt, A. & Patelli, A., 9 Apr 2023, *International Conference on the Applications of Evolutionary Computation (Part of EvoStar)*. Correia, J., Smith, S. & Qaddoura, R. (eds.). 1 ed. p. 519–535 16 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 13989 LNCS).

Is Beauty in the Age of the Beholder?

Easton, E., Bernardet, U. & Ekárt, A., 1 Apr 2023, *Artificial Intelligence in Music, Sound, Art and Design - 12th International Conference, EvoMUSART 2023, Held as Part of EvoStar 2023, Proceedings: 12th International Conference, EvoMUSART 2023*. Johnson, C., Rodríguez-Fernández, N. & Rebelo, S. M. (eds.). p. 84-99 (Lecture Notes in Computer Science; vol. 13988).

Guest Editorial: Special Issue on Evolutionary Computation for Games

Schrum, J., Liu, J., Browne, C., Ekárt, A. & Gallagher, M., 17 Mar 2023, In: *IEEE Transactions on Games*. 15, 1, p. 1-4 4 p.

Axial Generation: Mixing Colour and Shapes to Automatically Form Diverse Digital Sculptures

Easton, E., Ekárt, A. & Bernardet, U., Nov 2022, In: *SN Computer Science*. 3, 6, 17 p., 505.

The Use of Retinal Microvascular Function and Telomere Length in Age and Blood Pressure Prediction in Individuals with Low Cardiovascular Risk

Shokr, H., Lush, V., Dias, I. H., Ekárt, A., De Moraes, G. & Gherghel, D., Oct 2022, In: *Cells*. 11, 19, 15 p., 3037.

A GENTLER Approach to Urban Traffic Modelling and Prediction

Patelli, A., Hamilton, J. R., Lush, V. & Ekart, A., 23 Jul 2022, *2022 IEEE Congress on Evolutionary Computation, CEC 2022 - Conference Proceedings*. IEEE, p. 1-8 8 p. 9870273

A Remote Breathing Relaxation System- A case-study for Web-based Real-time Adaptive Human to Virtual Human Interaction

Dar, S., Ekart, A. & Bernardet, U., 11 Jul 2022. 4 p.

The Virtual Human Breathing Coach

Dar, S., Ekart, A. & Bernardet, U., 20 Apr 2022, *Proceedings of 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW 2022)*. IEEE, p. 434-436 3 p. (IEEE VRW Proceedings).

Fruit quality and defect image classification with conditional GAN data augmentation

Bird, J. J., Barnes, C. M., Manso, L. J., Ekárt, A. & Faria, D. R., 5 Feb 2022, In: *Scientia Horticulturae*. 293, 110684.

Evolving Neuromodulated Controllers in Variable Environments

Barnes, C. M., Ekárt, A., Ellefsen, K. O., Glette, K., Lewis, P. R. & Tørresen, J., 5 Jan 2022, *2021 IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS)*. El-Araby, E., Kalogeraki, V., Pianini, D., Lassabe, F., Porter, B., Ghahremani, S., Nunes, I., Bakhouya, M. & Tomforde, S. (eds.). IEEE, p. 164-169 6 p.

Behavioural Plasticity Can Help Evolving Agents in Dynamic Environments but at the Cost of Volatility

Barnes, C. M., Ekárt, A., Ellefsen, K. O., Glette, K., Lewis, P. R. & Tørresen, J., Dec 2021, In: *ACM Transactions on Autonomous and Adaptive Systems*. 15, 4, p. 1-26 26 p., 11.

Editorial for the Topical Issue "Evolution, the New AI Revolution"

Ekárt, A. & Esparcia-alcázar, A. I., 1 Nov 2021, In: *SN Computer Science*. 2, 6, 433.

Chatbot Interaction with Artificial Intelligence: human data augmentation with T5 and language transformer ensemble for text classification

Bird, J. J., Ekárt, A. & Faria, D. R., 23 Aug 2021, (E-pub ahead of print) In: Journal of Ambient Intelligence and Humanized Computing.

Axial Generation: A Concretism-Inspired Method for Synthesizing Highly Varied Artworks

Easton, E., Ekárt, A. & Bernardet, U., 2 Apr 2021, *Artificial Intelligence in Music, Sound, Art and Design - 10th International Conference, EvoMUSART 2021, Held as Part of EvoStar 2021, Proceedings*. Romero, J., Martins, T. & Rodríguez-Fernández, N. (eds.). Springer, p. 115-130 16 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 12693 LNCS).

Synthetic Biological Signals Machine-generated by GPT-2 improve the Classification of EEG and EMG through Data Augmentation

Bird, J. J., Pritchard, M., Fratini, A., Ekart, A. & Faria, D., 1 Apr 2021, In: IEEE Robotics and Automation Letters. 6, 2, p. 3498-3504 7 p., 9345373.

A study on CNN image classification of EEG Signals represented in 2D and 3D

Bird, J. J., Faria, D. R., Manso, L. J., Ayrosa, P. P. D. S. & Ekart, A., Apr 2021, In: Journal of Neural Engineering. 18, 2, 026005.

Look and listen: A multi-modality late fusion approach to scene classification for autonomous machines

Bird, J. J., Faria, D. R., Premebida, C., Ekart, A. & Vogiatzis, G., 10 Feb 2021, *2020 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2020*. IEEE, p. 10380-10385 6 p. 9341557. (IEEE International Conference on Intelligent Robots and Systems).

Cross-domain MLP and CNN Transfer Learning for Biological Signal Processing: EEG and EMG

Bird, J. J., Kobylarz, J., Faria, D. R., Ekart, A. & Ribeiro, E. P., Jan 2021, In: IEEE Access. 8, p. 54789-54801 13 p., 9027853.

Beyond goal-rationality: Traditional action can reduce volatility in socially situated agents

Barnes, C. M., Ekárt, A. & Lewis, P. R., 1 Dec 2020, In: Future Generation Computer Systems. 113, p. 579-596 18 p.

Thumbs up, thumbs down: non-verbal human-robot interaction through real-time EMG classification via inductive and supervised transductive transfer learning

Kobylarz, J., Bird, J. J., Faria, D. R., Ribeiro, E. P. & Ekárt, A., Dec 2020, In: Journal of Ambient Intelligence and Humanized Computing. 11, 12, p. 6021-6031 11 p.

Country-level pandemic risk and preparedness classification based on COVID-19 data: A machine learning approach

Bird, J. J., Barnes, C. M., Premebida, C., Ekárt, A., Faria, D. R. & Hatzikirou, H. (ed.), Oct 2020, In: PLoS ONE. 15, 10, e0241332.

From Simulation to Reality: CNN Transfer Learning for Scene Classification

Bird, J. J., Faria, D. R., Ekart, A. & Ayrosa, P. P. S., 18 Sept 2020, *2020 IEEE 10th International Conference on Intelligent Systems, IS 2020 - Proceedings*. Sgurev, V., Jotsov, V., Kruse, R. & Hadjiski, M. (eds.). IEEE, p. 619-625 7 p. 9199968. (2020 IEEE 10th International Conference on Intelligent Systems, IS 2020 - Proceedings).

Coevolutionary learning of neuromodulated controllers for multi-stage and gamified tasks

Barnes, C. M., Ekart, A., Ellefsen, K. O., Glette, K., Lewis, P. R. & Torresen, J., 15 Sept 2020, *Proceedings - 2020 IEEE International Conference on Autonomic Computing and Self-Organizing Systems, ACSOS 2020*. El-Araby, E., Tomforde, S., Wood, T., Kumar, P., Raibulet, C., Petri, I., Valentini, G., Nelson, P. & Porter, B. (eds.). IEEE, p. 129-138 10 p. 9196458. (Proceedings - 2020 IEEE International Conference on Autonomic Computing and Self-Organizing Systems, ACSOS 2020).

British Sign Language Recognition via Late Fusion of Computer Vision and Leap Motion with Transfer Learning to American Sign Language

Bird, J. J., Ekárt, A. & Faria, D. R., 9 Sept 2020, In: Sensors. 20, 18, 19 p., 5151.

Genetic Programming with Transfer Learning for Urban Traffic Modelling and Prediction

Ekárt, A., Patelli, A., Lush, V. & Ilie-Zudor, E., 3 Sept 2020, *2020 IEEE Congress on Evolutionary Computation, CEC 2020 - Conference Proceedings*. IEEE, 9185880

Optimisation of phonetic aware speech recognition through multi-objective evolutionary algorithms

Bird, J. J., Wanner, E., Ekárt, A. & Faria, D. R., 1 Sept 2020, In: *Expert Systems with Applications*. 153, 113402.

On the effects of pseudorandom and quantum-random number generators in soft computing

Bird, J., Ekárt, A. & Faria, D., Jun 2020, In: *Soft computing*. 24, p. 9243–9256 14 p.

Overcoming Data Scarcity in Speaker Identification: Dataset Augmentation with Synthetic MFCCs via Character-level RNN

Bird, J. J., Faria, D. R., Premebida, C., Ekart, A. & Ayrosa, P. P. S., 19 May 2020, *2020 IEEE International Conference on Autonomous Robot Systems and Competitions, ICARSC 2020*. Lau, N., Silva, M. F., Reis, L. P. & Cascalho, J. (eds.). IEEE, p. 146-151 6 p. 9096166

Preface

Romero, J., Ekárt, A., Martins, T. & Correia, J., 17 Apr 2020, In: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. 12103, p. v-vi

Co-creating enduring institutions for socio-technical systems: The complementarity of content-based and value-based modelling approaches

Powers, S. T., Ekárt, A. & Lewis, P. R., 1 Jan 2020, *ALIFE 2018 - 2018 Conference on Artificial Life: Beyond AI*. MIT, p. 105-106 2 p.

Phoneme Aware Speech Synthesis via Fine Tune Transfer Learning with a Tacotron Spectrogram Prediction Network

Bird, J. J., Ekárt, A. & Faria, D. R., 30 Aug 2019, *Advances in Computational Intelligence Systems - Contributions Presented at the 19th UK Workshop on Computational Intelligence, 2019*. Ju, Z., Zhou, D., Gegov, A., Yang, L. & Yang, C. (eds.). Springer, Vol. 1043. p. 271-282 12 p. (Advances in Intelligent Systems and Computing; vol. 1043).

Increasing genetic programming robustness using simulated dunning-kruger effect

Griffiths, T. D. & Ekárt, A., 13 Jul 2019, *GECCO 2019 Companion - Proceedings of the 2019 Genetic and Evolutionary Computation Conference Companion*. ACM, p. 340-341 2 p.

Phoneme aware speech recognition through evolutionary optimisation

Bird, J. J., Wanner, E., Ekárt, A. & Faria, D. R., 13 Jul 2019, *GECCO 2019 Companion - Proceedings of the 2019 Genetic and Evolutionary Computation Conference Companion*. ACM, p. 362-363 2 p. (GECCO 2019 Companion - Proceedings of the 2019 Genetic and Evolutionary Computation Conference Companion).

Evolutionary Optimisation of Fully Connected Artificial Neural Network Topology

Bird, J. J., Ekárt, A., Buckingham, C. D. & Faria, D. R., 23 Jun 2019, *Intelligent Computing - Proceedings of the 2019 Computing Conference*. Arai, K., Bhatia, R. & Kapoor, S. (eds.). Springer, p. 751-762 12 p. (Advances in Intelligent Systems and Computing; vol. 997).

High Resolution Sentiment Analysis by Ensemble Classification

Bird, J. J., Ekárt, A., Buckingham, C. D. & Faria, D. R., 23 Jun 2019, *Intelligent Computing - Proceedings of the 2019 Computing Conference*. Arai, K., Bhatia, R. & Kapoor, S. (eds.). Springer, p. 593-606 14 p. (Advances in Intelligent Systems and Computing; vol. 997).

Accent classification in human speech biometrics for native and non-native english speakers

Bird, J. J., Wanner, E., Ekárt, A. & Faria, D. R., 5 Jun 2019, *Proceedings of the 12th ACM International Conference on Pervasive Technologies Related to Assistive Environments, PETRA 2019*. ACM, p. 554-560 7 p.

Social Action in Socially Situated Agents

Barnes, C. M., Ekart, A. & Lewis, P. R., 1 Jun 2019, *Proceedings - 2019 IEEE 13th International Conference on Self-Adaptive and Self-Organizing Systems, SASO 2019*. IEEE, Vol. 2019-June. p. 97-106 10 p. 8780530. (2019 IEEE 13th International Conference on Self-Adaptive and Self-Organizing Systems (SASO)).

A Study on Mental State Classification using EEG-based Brain-Machine Interface

Bird, J., Manso, L. J., Ribeiro, E. P., Ekárt, A. & Faria, D., 8 May 2019, *9th International Conference on Intelligent Systems 2018: Theory, Research and Innovation in Applications, IS 2018 - Proceedings*. Martins, J., Jotsov, V., Bierwolf, R., Mendonca, J. P., Jardim-Goncalves, R. & Marques, M. (eds.). IEEE, p. 795-800 6 p. 8710576. (2018 International Conference on Intelligent Systems (IS)).

Smart Cyber-Physical System applications in production and logistics: special issue editorial

Ilie-Zudor, E., Preuveneers, D., Ekárt, A. & Hohwieler, E., 4 May 2019, In: *International Journal of Computer Integrated Manufacturing*. 32, 4-5, p. 327-328 2 p.

Preface

Ekárt, A., Liapis, A. & Castro Pena, M. L., 1 Apr 2019, In: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. 11453, p. v-vi

Tired of Choosing? Just Add Structure and Virtual Reality

Easton, E., Bernardet, U. & Ekart, A., 27 Mar 2019, *Computational Intelligence in Music, Sound, Art and Design - 8th International Conference, EvoMUSART 2019, Held as Part of EvoStar 2019, Proceedings*. Castro Pena, M. L., Ekárt, A. & Liapis, A. (eds.). Springer, Vol. 11453. p. 142-155 14 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 11453 LNCS).

A Deep Evolutionary Approach to Bioinspired Classifier Optimisation for Brain-Machine Interaction

Bird, J., Faria, D., Manso, L. J., Ekárt, A. & Buckingham, C. D., 13 Mar 2019, In: *Complexity*. 2019, 14 p., 4316548.

Disobedience as a mechanism of change

Burth Kurka, D., Pitt, J., Lewis, P. R., Patelli, A. & Ekart, A., 15 Jan 2019, *Proceedings - 12th IEEE International Conference on Self-Adaptive and Self-Organizing Systems, SASO 2018*. IEEE, Vol. 2018-September. p. 1-10 10 p. 8613714. (2018 IEEE 12th International Conference on Self-Adaptive and Self-Organizing Systems (SASO)).

Modelling enduring institutions: The complementarity of evolutionary and agent-based approaches

Powers, S. T., Ekárt, A. & Lewis, P., 1 Dec 2018, In: *Cognitive Systems Research*. 52, p. 67-81

Emotion Recognition using Spatiotemporal Features from Facial Expression Landmarks

Golzadeh, H., Faria, D., Manso, L. J., Ekárt, A. & Buckingham, C. D., 26 Sept 2018, *Proceedings of the 9th International Conference on Intelligent Systems*. 6 p.

Partially Lazy Classification of Cardiovascular Risk via Multi-way Graph Cut Optimization

Fathalla, K. M., Ekárt, A. & Gherghel, D., 28 Aug 2018, In: *Procedia Computer Science*. 126, p. 576-585 10 p.

Learning from Interaction: An Intelligent Networked-Based Human-Bot and Bot-Bot Chatbot System

Bird, J. J., Ekárt, A. & Faria, D. R., 11 Aug 2018, (E-pub ahead of print) *UK Workshop on Computational Intelligence*. Springer, Vol. 840. p. 179-190 (Advances in Computational Intelligence Systems; vol. 840).

Self-adaptive crossover in genetic programming: The case of the tartarus problem

Griffiths, T. D. & Ekárt, A., 4 Jun 2018, *Parallel Problem Solving from Nature - PPSN XV - 15th International Conference, 2018, Proceedings*. Springer, p. 236-246 11 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 11101 LNCS).

Improving the effectiveness of genetic programming using continuous self-adaptation

Griffiths, T. D. & Ekárt, A., 19 Apr 2018, (E-pub ahead of print) *Artificial Life and Intelligent Agents - Second International Symposium, ALIA 2016, Revised Selected Papers*. Springer, Vol. 732. p. 97-102 6 p. (Communications in Computer and Information Science; vol. 732).

Synergies between reinforcement learning and evolutionary dynamic optimisation

Soni, A., Lewis, P. R. & Ekárt, A., 19 Apr 2018, (E-pub ahead of print) *Artificial Life and Intelligent Agents - Second International Symposium, ALIA 2016, Revised Selected Papers*. Springer, Vol. 732. p. 91-96 6 p. (Communications in Computer and Information Science; vol. 732).

Preface

Liapis, A., Cardalda, J. J. R. & Ekárt, A., 1 Apr 2018, In: *Lecture Notes in Computer Science*. 10783

Social and asocial learning in collective action problems: the rise and fall of socially-beneficial behaviour

Lewis, P. R. & Ekart, A., 12 Oct 2017, *Proceedings - 2017 IEEE 2nd International Workshops on Foundations and Applications of Self* Systems, FAS*W 2017*. IEEE, p. 91-96 6 p. 8064102

An architecture for the autonomic curation of crowdsourced knowledge

Patelli, A., Lewis, P. R., Ekárt, A., Wang, H., Nabney, I. T., Bennett, D., Lucas, R. & Cole, A., 1 Sept 2017, In: *Cluster Computing*. 20, 3, p. 2031–2046 16 p.

Genotype–phenotype mapping implications for genetic programming representation: commentary on “On the mapping of genotype to phenotype in evolutionary algorithms” by Peter A. Whigham, Grant Dick, and James Maclaurin

Ekárt, A. & Lewis, P. R., Sept 2017, In: *Genetic Programming and Evolvable Machines*. 18, p. 369–372 4 p.

Gaining insights into road traffic data through genetic improvement

Ekárt, A., Patelli, A., Lush, V. & Ilie-Zudor, E., 15 Jul 2017, *GECCO '17: proceedings of the Genetic and Evolutionary Computation Conference*. New York, NY (US): ACM, p. 1511-1512 2 p.

Improving the Tartarus problem as a benchmark in genetic programming

Griffiths, T. D. & Ekárt, A., 15 Mar 2017, (E-pub ahead of print) *Genetic programming: 20th European Conference, EuroGP 2017, Amsterdam, The Netherlands, April 19-21, 2017, proceedings*. McDermott, J., Castelli, M., Sekanina, L. & et al (eds.). Cham (CH): Springer, p. 278-293 16 p. (Lecture Notes in Computer Science; vol. 10196).

Offline and online time in Sequential Decision-Making Problems

Soni, A., Lewis, P. R. & Ekárt, A., 9 Feb 2017, *2016 IEEE Symposium Series on Computational Intelligence, SSCI 2016*. IEEE, 8 p. 7849961

Cardiovascular risk prediction based on retinal vessel analysis using machine learning

Fathalla, K., Ekárt, A., Seshadri, S. & Gherghel, D., 6 Feb 2017, *2016 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2016 - Conference Proceedings*. IEEE, p. 880-885 6 p.

Fitness and novelty in evolutionary art

Vinhas, A., Assunção, F., Correia, J., Ekárt, A. & Machado, P., 17 Mar 2016, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. Johnson, C., Ciesielski, V., Correia, J. & Machado, P. (eds.). Springer, p. 225-240 16 p. (Lecture Notes in Computer Science; vol. 9596).

Ageing effect on flicker-induced diameter changes in retinal microvessels of healthy individuals

Seshadri, S., Ekart, A. & Gherghel, D., Feb 2016, In: *Acta Ophthalmologica*. 94, 1, p. e35-e42

Evolving ambiguous images

Machado, P., Vinhas, A., Correia, J. & Ekárt, A., 7 Oct 2015, *AI Matters*, 2, 1, p. 7-8 2 p.

Two-B or not two-B? Design patterns for hybrid metaheuristics

Patelli, A., Bencomo, N., Ekart, A., Goldingay, H. & Lewis, P., 11 Jul 2015, *GECCO Companion '15 : proceedings of the companion publication of the 2015 annual conference on Genetic and Evolutionary Computation*. Silva, S. (ed.). New York, NY (US): ACM, p. 1269-1274 6 p.

Advanced predictive-analysis-based decision support for collaborative logistics networks

Ilie-Zudor, E., Ekárt, A., Kemény, Z., Buckingham, C., Welch, P. & Monostori, L., 8 Jun 2015, In: Supply Chain Management. 20, 4, p. 369-388 10 p.

Systemic circulatory influences on retinal microvascular function in middle-age individuals with low to moderate cardiovascular risk

Seshadri, S., Mroczkowska, S., Qin, L., Patel, S., Ekárt, A. & Gherghel, D., Jun 2015, In: Acta Ophthalmologica. 93, 4, p. e266-e274 9 p.

Evolving ambiguous images

Machado, P., Vinhas, A., Correia, J. & Ekárt, A., 2015, *Proceedings of the twenty-fourth International Joint Conference on Artificial Intelligence (IJCAI 2015)*. International Joint Conferences on Artificial Intelligence, p. 2473-2479 7 p.

Women@GECCO 2014

O'Reilly, U-M., Esparcia, A., Auger, A., Doerr, C., Ekárt, A. & Ochoa, G., 31 Dec 2014, *GECCO Comp '14 : proceedings of the 2014 conference companion on Genetic and evolutionary computation companion*. New York, NY (US): ACM, p. 1487-1488 2 p.

Cloud adoption: prioritizing obstacles and obstacles resolution tactics using AHP

Zardari, S., Bahsoon, R. & Ekárt, A., 24 Mar 2014, *SAC '14 : proceedings of the 29th annual ACM Symposium on Applied Computing*. New York, NY (US): ACM, p. 1013-1020 8 p.

Emergence in genetic programming: let's exploit it!

Ekárt, A., 1 Mar 2014, In: Genetic Programming and Evolvable Machines. 15, 1, p. 83-85 3 p.

Patients with early age-related macular degeneration exhibit signs of macro- and micro-vascular disease and abnormal blood glutathione levels

Qin, L., Mroczkowska, S. A., Ekart, A., Patel, S. R., Gibson, J. M. & Gherghel, D., 31 Jan 2014, In: Graefe's Archive for Clinical and Experimental Ophthalmology. 252, 1, p. 23-30 8 p.

A solution for information management in logistics operations of modern manufacturing chains

Ilie-Zudor, E., Kemény, Z., Ekárt, A., Buckingham, C. D. & Monostori, L., 2014, In: Procedia CIRP. 25, p. 337-344 8 p.

Bi-directional double auction for financial market simulation

Chang, M., He, M., Ekárt, A., Luo, X. & Zhang, S., 6 May 2013, *12th International Conference on Autonomous Agents and Multiagent Systems 2013, AAMAS 2013*. ACM, Vol. 2. p. 1313-1314 2 p.

Preface

Esparcia-Alcázar, A. I., Silva, S., Agapitos, A., Simões, A., Urquhart, N., Cotta, C., de Falco, I., Haasdijk, E., Tarantino, E., della Cioppa, A., Diwold, K., Zhang, M., Ekárt, A., Tettamanzi, A., Eiben, A. E., Burelli, P., Rohlfshagen, P., Schaefer, R. & Glette, K., 1 Jan 2013, *Applications of evolutionary computing: 16th European conference, EvoApplications 2013, Vienna, Austria, April 3-5, 2013, proceedings*. Esparcia-Alcázar, A. I. & et al (eds.). Berlin (DE): Springer, p. iv-x 7 p. (Lecture notes in computer science; vol. 7835).

Coexistence of macro- and micro-vascular abnormalities in newly diagnosed normal tension glaucoma patients

Mroczkowska, S., Ekárt, A., Sung, V., Negi, A., Qin, L., Patel, S., Jacob, S., Atkins, C., Benavente-Pérez, A. & Gherghel, D., Nov 2012, In: Acta Ophthalmologica Scandinavica. 90, 7, p. e553-e559 7 p., Acta-12-01-0065.

Genetic algorithms for discovery of matrix multiplication methods

Joó, A. M., Ekárt, A. & Neirotti, J. P., Oct 2012, In: IEEE Transactions on Evolutionary Computation. 16, 5, p. 749-751 3 p., 6151102.

Modelling the underlying principles of human aesthetic preference in evolutionary art

Ekárt, A., Joó, A., Sharma, D. & Chalakov, S., Jun 2012, In: Journal of Mathematics and the Arts. 6, 2-3, p. 107-124 18 p.

Applications of evolutionary computation: EvoApplications 2012: EvoCOMNET, EvoCOMPLEX, EvoFIN, EvoGAMES, EvoHOT, EvoIASP, EvoNUM, EvoPAR, EvoRISK, EvoSTIM, and EvoSTOC, Málaga, Spain, April 11-13, 2012, Proceedings

di Chio, C. (ed.), Agapitos, A. (ed.), Cagnoni, S., Cotta, C. (ed.), de Vega, F. F. (ed.), di Caro, G. A. (ed.), Drechsler, R. (ed.), Ekárt, A. (ed.), Esparcia-Alcázar, A. I. (ed.), Farooq, M. (ed.), Langdon, W. B. (ed.), Merelo-Guervós, J.-J. (ed.), Preuss, M. (ed.), Richter, H. (ed.), Silva, S. (ed.), Simões, A. (ed.), Squillero, G. (ed.), Tarantino, E. (ed.), Tettamanzi, A. G. B. (ed.), Togelius, J. (ed.), & 3 others Yannakakis, G. N. (ed.), Urqhart, N. (ed.) & Uyar, A. Ş. (ed.), 2012, Berlin (DE): Springer. (Lecture Notes in Computer Science; vol. 7248)

Modelling human preference in evolutionary art

Ekárt, A., Chalakov, S. & Sharma, D., 1 Apr 2011, *Applications of Evolutionary Computation EvoApplications 2011: EvoCOMNET, EvoFIN, EvoHOT, EvoMUSART, EvoSTIM, and EvoTRANSLOG, Torino, Italy, April 27-29, 2011, Proceedings, Part II*. London (UK): Springer, p. 303-312 10 p. (Lecture notes in computer science; vol. 6625).

Applications of evolutionary computation: EvoApplications 2011: EvoCOMPLEX, EvoGAMES, EvoIASP, EvoINTELLIGENCE, EvoNUM, and EvoSTOC, Torino, Italy, April 27-29, 2011, Proceedings, Part I

di Chio, C. (ed.), Cagnoni, S. (ed.), Cotta, C. (ed.), Ebner, M., Ekárt, A., Esparcia-Alcázar, A. I., Merelo, J. J., Neri, F., Preuss, M., Richter, H., Togelius, J., Yannakakis, G. N. & Yannakakis, G. N., 2011, Berlin (DE): Springer. (Lecture Notes in Computer Science; vol. 6624)

Preface

Chio, C. D., Cagnoni, S., Cotta, C., Ebner, M., Ekárt, A., Esparcia-Alcázar, A. I., Merelo, J. J., Neri, F., Preuss, M., Richter, H., Togelius, J. & Yannakakis, G. N., 2011, *European Conference on Applications of Evolutionary Computation, EvoApplications 2011 and Workshop on EvoCOMPLEX, EvoGAMES, EvoIASP, EvoINTELLIGENCE, EvoNUM, and EvoSTOC 2011*. Springer, Vol. 6624. p. VII-XI (Lecture Notes in Computer Science; vol. 6624).

Rapid heuristic projection on simplicial cones

Ekárt, A., Nemeth, A. & Nemeth, S., 12 Jan 2010.

Hierarchical case-based reasoning to support knitwear design

Richards, P. & Ekárt, A., 2010, In: *Cirp Journal of Manufacturing Science and Technology*. 2, 4, p. 299-309 11 p.

Applications of evolutionary computing: EvoWorkshops 2009: EvoCOMNET, EvoENVIRONMENT, EvoFIN, EvoGAMES, EvoHOT, EvoIASP, EvoINTERACTION, EvoMUSART, EvoNUM, EvoSTOC, EvoTRANSLOG, Tübingen, Germany, April 15-17, 2009. Proceedings

Giacobini, M. (ed.), Brabazon, A. (ed.), Cagnoni, S. (ed.), di Caro, G. A. (ed.), Ekárt, A. (ed.), Esparcia-Alcázar, A. I. (ed.), Farooq, M. (ed.), Fink, A. (ed.) & Machado, P. (ed.), 23 Jul 2009, Berlin (DE): Springer. (Lecture Notes in Computer Science; vol. 5484)

Supporting knitwear design using case-based reasoning

Richards, P. & Ekárt, A., 2009, *Competitive design : proceedings of the 19th CIRP design conference*. Roy, R. & Shehab, E. (eds.). Cranfield University Press, p. 388-395 8 p.

Preface

Ebner, M., O'Neill, M., Ekárt, A., Vanneschi, L. & Esparcia-Alcázar, A. I., 27 Aug 2007, In: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. 4445 LNCS

Using genetic algorithms in computer vision: registering images to 3D surface model

Jankó, Z., Chetverikov, D. & Ekárt, A., 1 Jan 2007, In: *University of Szeged. Acta Cybernetica*. 18, 2, p. 193-212 20 p.

Evolution of lace knitting stitch patterns by genetic programming

Ekárt, A., 2007, *GECCO '07 : proceedings of the 9th annual conference companion on Genetic and evolutionary computation*. New York, NY (US): ACM, p. 2457-2461 5 p.

Stability analysis of tree structured decision functions

Ekárt, A. & Németh, S. Z., 1 Feb 2005, In: European Journal of Operational Research. 160, 3, p. 676-695 20 p.

A data structure for improved gp analysis via efficient computation and visualisation of population measures

Ekárt, A. & Gustafson, S., 1 Jan 2004, *Genetic programming: 7th European Conference, EuroGP 2004, Coimbra, Portugal, April 5-7, 2004. Proceedings*. Keijzer, M., O'Reilly, U-M., Lucas, S., Costa, E. & Soule, T. (eds.). Berlin (DE): Springer, p. 35-46 12 p. (Lecture Notes in Computer Science ; vol. 3003).

Using genetic programming and decision trees for generating structural descriptions of four bar mechanisms

Ekárt, A. & Márkus, A., Aug 2003, In: Artificial Intelligence for Engineering Design, Analysis and Manufacturing. 17, 3, p. 205-220 16 p.

Using genetic algorithms for improved discrete sequence prediction

Ekárt, A., 2003, *Proceedings of the International Conference on Artificial Intelligence, IC-AI '03, June 23 - 26, 2003, Las Vegas, Nevada, USA*. Arabnia, H. R., Joshua, R. & Mun, Y. (eds.). CSREA, Vol. 1. p. 475-481 10 p.

Activities

AI for Visual Art

Aniko Ekárt (Speaker)

15 Feb 2021

9th International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt)

Aniko Ekárt (Participant)

15 Apr 2020 → 17 Apr 2020

Genetic and Evolutionary Computation Conference

Aniko Ekárt (Participant)

2020 → 2021

Natural Computing (Journal)

Aniko Ekárt (Editorial board member)

2020 → 2021

Artificial Intelligence for Visual Art

Aniko Ekárt (Speaker)

10 Dec 2019

8th International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt)

Aniko Ekárt (Participant)

24 Apr 2019 → 26 Apr 2019

Humanizing social learning

Aniko Ekárt (Speaker)

2019

7th International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt)

Aniko Ekárt (Participant)

4 Apr 2018 → 6 Apr 2018

Genetic and Evolutionary Computation Conference 2012

Aniko Ekárt (Chair)

2012 → ...

IEEE Transactions on Evolutionary Computation (Journal)

Aniko Ekárt (Editorial board member)

2012 → ...

Neural Computing and Applications (Journal)

Aniko Ekárt (Editorial board member)

2012

Evolutionary Computation (Journal)

Aniko Ekárt (Editorial board member)

2011 → ...

Projects

50117 - FP7 - STREP - ICT - (ADVANCE) Advanced predictive-analysis-based decision-support engine for logistics

Ekárt, A. & Buckingham, C.

1/12/11 → 16/01/14