Dr Michael Kampouridis

PhD, MSc, PGCHE, BSc, FHEA

University of Essex
Sch. of Comp. Science and Electr. Engineering
Wivenhoe Park
CO4 3Q
UK

E-mail: mkampo@essex.ac.uk
URL: http://kampouridis.net

EMPLOYMENT

Apr 2020 - Present **Sch. of Comp. Science and Electr. Engineering, University of Essex**
Lecturer
Centre for Computational Finance and Economic Agents (CCFEA)

Sep 2012 - March 2020 **School of Computing, University of Kent**
Lecturer

Apr 2013 - April 2017 **Sch. of Comp. Science and Electr. Engineering, University of Essex**
Visiting Fellow

Nov 2010 - Jul 2012 **Sch. of Comp. Science and Electr. Engineering, University of Essex**
Research Assistant working on British Telecom's projects

1st Appointment: Nov 2010 - May 2011. Project: Forecasting Demand for Fibre-based Networks
2nd Appointment: Aug 2011 - Jul 2012. Project: Backhaul Network Optimisation

EDUCATION

2013 **University of Kent**
Postgraduate Certificate in Higher Education (PGCHE)

2011 **University of Essex**
PhD in Computer Science
School of Computer Science and Electronic Engineering (CSEE)

EPSRC funded.

Thesis Title: *"Computational Intelligence in Financial Forecasting and Agent-Based Modeling: Applications of Genetic Programming and Self-Organizing Maps"*.

Supervisor: Prof Edward Tsang (CSEE, Essex)
Co-supervisor: Prof Shu-Heng Chen (Department of Economics, NCCU, Taiwan)
Examiners: Prof Xin Yao (Birmingham), Dr Steve Phelps (CSEE, Essex)

2006 **University of Essex**
MSc in Computer Studies *(with distinction)*

Best dissertation prize awarded.

2005 **University of Athens**
BSc in Economic Sciences. *Grade: 63%.*

TEACHING EXPERIENCE

Sep 2012 - Present **School of Computing, University of Kent**

Subjects involved as a convenor, lecturer and/or class supervisor:

- CO323 - Databases and the Web (2012 - Now)
  Topics: HTML(5), Javascript, CSS, PHP, MySQL.
- CO334 - People and Computing (2012 - 2018)
  Topics: Personal Development Project, how to work successfully in a group, IPR, Laws applying to the use and development of computing.
- CO525 - Dynamic Web (2012)
  Topics: Javascript, CSS, MySQL, PHP.
- CO539 - Web Development (2014 - Now)
  Topics: Web servers, PHP Frameworks (CodeIgniter), jQuery, AJAX, Web Services, Android Development.
- CO542 - Foundations of Information Technology and Computing (2014 - Now)
  Topics: Intermediate Java (testing, inheritance, abstraction, interfaces, exceptions), project management, software engineering.
- CO649 - Data Mining (2012, 2013)
  Topics: Data pre-processing, decision trees, naive bayesian classification, post-processing.
- CO656 - Computational Intelligence in Business, Economics and Finance (2015 - Now)
  Topics: Heuristic algorithms, particularly evolutionary algorithms, and how we apply them to tackle real-world business problems.

Nominated by my students for a Kent Union Teaching Award for the Academic Year 2012-2013.

Jan 2008 - Mar 2012 **Sch. of Comp. Science and Electr. Engineering, University of Essex**

Graduate Teaching and Lab Assistant.

Subjects taught:

- Computational Intelligence in Economics and Finance, Web Applications Programming, Agent-Technology

OTHER WORK EXPERIENCE

Jan 2008 - Mar 2009 **Human Rights Centre, University of Essex**

Web Maintenance Officer. Responsible for developing web applications and maintaining the Human Rights Centre website.

Oct 2007 - Jun 2008 **Student Support Office, University of Essex**

Residents Support Network (RSN) Assistant. Responsible for the welfare of students who live in University accommodation

Jun 2003 - Aug 2003 **Commercial Bank of Greece**

Internship

Oct 2002 - Mar 2003 **Department of Economics, University of Essex**

Visiting Student under the Erasmus program

PUBLICATIONS

- 7 edited book proceedings
- 10 peer-reviewed journal papers
- 2 peer-reviewed book chapters
- 30 peer-reviewed papers in conference proceedings

For a full list of publications, please see Appendix IV.

SUPERVISION

2012 - Present School of Computing, University of Kent

- PhD supervision
  - Mr Adesolah Noah Adegboye (January 2016 - Present)
  - Mr Sam Cramer (September 2013 - October 2017 [Completed])
- PhD Panel member
  - Mr Ismail Anwar (January 2017 - Present)
- MSc Dissertation Projects (June 2013 - Present)

  Distinctions:
  - *Extracts from the MSc dissertations have been published in the Genetic and Evolutionary Computation Conference (GECCO - 2014), and in the IEEE Congress on Evolutionary Computation (CEC) conference (2015)*
- Final Year Group Projects (September 2012 - Present)

2011 - 2012 Sch. of Comp. Science and Electr. Engineering, University of Essex

Research-led MSc Dissertation Projects.

Distinctions:

- *Oustanding MSc Dissertation Prize (2012)*
- *MSc Project Presentation Prize (2012, 2013)*
- *Extracts from the above dissertations have been published in the IEEE Congress on Evolutionary Computation (CEC) conference (2013), and the IEEE Computational Intelligence for Financial Engineering & Economics conference (2014)*

GRANTS, SCHOLARSHIPS and PRIZES

Total value of grants and scholarships: approx £62,000
A detailed list of these grants, scholarships and prizes can be found in Appendix II.

ADMINISTRATIVE EXPERIENCE

School of Computing, University of Kent

- Director of Graduate Studies - Taught (August 2019 - March 2020)
- Chair of PGT Board of Examiners (August 2019 - March 2020)
- Programme Director - MSc Advanced Computer Science (August 2019 - March 2020)
- Acting Director of Graduate Studies - Research (January 2018 - September 2018)
- Library (Drill Hall) Representative (September 2017 - March 2020)
- School Representative at the Faculty of Sciences Board (Marrch 2017 - March 2020)

- Associate Colleges Liaison. Overseeing MidKent College's IT programmes (November 2016 - March 2020)
- Research Seminars Organiser (September 2012 - September 2019)
- Academic Adviser. Academic and pastoral support (September 2012 - March 2020)

Student Support Office, University of Essex

Residents Support Network (RSN) Co-ordinator. Welfare role. Supervising RSN assistants, who are responsible for the welfare of students who live in University accommodation, Oct 2009 - Sep 2011

PROFESSIONAL MEMBERSHIPS

- IEEE Computational Finance and Economics Technical Committee (CFE TC) (Chair: 2020, Member: 2013, 2016, 2018, 2019)
- Portfolio Optimisation Task Force, IEEE Computational Finance and Economics Technical Committee (Chair: 2018-2019)
- IEEE (2007 - 2014, 2018 - Present)
- IEEE Computational Intelligence Society (CIS) (2007 - 2014, 2018 - Present)
- IEEE Intelligent Systems Applications Technical Committee (ISA TC) (2014)
- IEEE CIS Young Professionals Subcommittee (2014)
- Fellow of the Higher Education Academy (FHEA)

OTHER PROFESSIONAL ACTIVITIES

Research Visits

- AI-Econ Centre, Department of Economics, NCCU, Taiwan (Jun 2009 - Sep 2009)
- AI-Econ Centre, Department of Economics, NCCU, Taiwan (Sep 2008 - Dec 2008)

Additional professional activities include: international conferences session chair, international journals reviewer, programme committee member of international conferences, tutorial instructor in conferences, and invited talks. A full list of the above activities can be found in Appendix III.

SKILLS AND ACTIVITIES

Computing

Programming Languages: Java, MATLAB, C#, Haskell

Databases: MySQL

Web technologies: SVG, HTML 5, XHTML, CSS 2/3, JSP, JSTL, ASP, ASP.net, PHP, CodeIgniter, JavaScript, jQuery

Other: Eclipse, Eclipse Rich Client Platform (OSGi Framework), LaTeX, Weka

Foreign Languages

Chinese (Mandarin dialect): Intermediate (3 years studies)

Czech: Beginner

English: Excellent (Cambridge Certificate of Proficiency in English, May 2004)

French: Good (Certificate in French-Delf 1, December 1997)

Greek: Excellent (Native speaker)

Appendix I

RESEARCH SUMMARY

I am interested in the use of Machine Learning (ML) techniques in business-related problems. I mainly work in the area of Evolutionary Algorithms, particularly Genetic Algorithms and Genetic Programming.

Current projects

My current research can be divided into two areas: algorithmic trading, and weather derivatives pricing.

With regards to algorithmic trading and financial forecasting in general, now, in the aftermath of a global financial crisis, it is more important than ever to have a better understanding of the markets and be able to forecast their movement. Directional changes is a new concept, which is based on the idea that an event-based system can capture significant points in price movements that the traditional physical time methods cannot. I am currently using evolutionary algorithms to create trading rules, by taking advantage of this new concept.

Another area I am heavily involved with is weather derivatives. Weather derivatives are financial instruments used as part of a risk management strategy to reduce risk associated with adverse or unexpected weather conditions. My aim is to develop a model of pricing weather derivative contracts by the use of genetic programming methods. Until now, there is no generally accepted framework for pricing such derivatives, as it happens with other (non-weather) derivatives (i.e. Black-Scholes model). This is a major problem, as it leads to incorrect predictions of the contract prices, thus resulting to significant financial loses. On the other hand, developing a novel genetic programming algorithm to create a generic pricing framework has the potential of great impact in the sector, by solving a problem that has existed since the introduction of weather derivatives in 1997, much like the Black-Scholes model did for options pricing in 1973. This is a significant problem, which is getting more and more attention by both industry and academia.

Past projects

I have used Genetic Programming to develop a financial forecasting tool, named EDDIE, which I used for predicting buy opportunities based on data from daily closing prices. I am deeply interested in the field of financial forecasting, and I continuously look for new search methods that can improve the predictability of forecasting tools such as EDDIE.

In addition, I have developed a financial model to study market dynamics and market behaviour by using Genetic Programming, along with Self-Organizing Maps. Financial modeling is another area that interests me and I believe that it has much to offer in understanding the financial markets and the decision-making process.

Furthermore, I have applied Genetic Algorithms and other heuristic techniques to a Telecommunications problem, where I built an intelligent system alongside an economic model, for British Telecoms (BT). This system acts as a decision support tool for the investment of Fibre Optic Networks, by advising BT on the optimal time and location for deploying a network.

Lastly, I have also been working on Automated Bargaining for Price-Speed (P-S) Optimised Negotiation. While Price-only optimisation is very popular and well-known, Price-Speed optimisation is relatively new. I am the first to bring GP into P-S optimisation and results have already demonstrated the GPs superiority against other state-of-the-art algorithms.

My interests are not, however, limited only in the above applications. I am always open in any type of interdisciplinary research that includes the use of Machine Learning. I am thus very keen on bringing ML into business, economics, and finance.

Appendix II

GRANTS, SCHOLARSHIPS and PRIZES

December 2019 **EIRA Innovation Voucher**
Can data mining analyse financial and behavioural information gathered through survey questions from the DoMeg platform? Value: £7,475

November 2019 **EIRA Innovation Voucher**
Consultancy investigation into Data Mining/Machine Learning (ML) techniques suitable for analysing customer preference data, gathered from the Moonberries platform. Value: £3,450

August 2018 **WealthObjects Ltd / School of Computing (Kent)**
Project for applying machine learning techniques to portfolio optimisation. Value: £26,800 (shared 50-50 by WealthObjects and SoC)

Mar 2017 **University of Kent**
Faculty of Sciences Research Fund for purchasing FX high-frequency data. Value: £2,000

Apr 2014 **University of Kent**
Faculty of Sciences Research Fund for purchasing FX high-frequency data. Value: £1,000

Apr 2011 **Evo* Conference**
Travel grant to attend the Evo* conference. Value: approx. £300

Nov 2010 **AI-Econ Center, National Cheng Chi University, Taiwan**
Travel grant to attend the Econophysics Colloquium in Taipei. Value: approx. £500

Jun 2009 - Sep 2009 **AI-Econ Center, National Cheng Chi University, Taiwan**
Research grant for a 3-month visit to Taiwan. Value: approx. £1,500

Oct 2008 - Dec 2008 **Office of International Cooperation**
Research grant for a 3-month visit to Taiwan. Value: approx. £1,500

Oct 2007 - Sep 2010 **University of Essex**
Grants for conference traveling and attendance. Value: approx. £6,500

Oct 2007- Sep 2010 **Engineering and Physical Sciences Research Council (EPSRC)**
Scholarship covering my PhD tuition fees. Value: approx. £10,000

Sep 2006 **University of Essex**
The Computer Studies Prize for exceptional performance at the summer examinations and dissertation of my Master. Value: £200

Oct 2002 - Mar 2003 **University of Athens**
The Socrates-Erasmus Scholarship for visiting the University of Essex. Value: 1,500 Euros

Appendix III

LIST OF PROFESSIONAL ACTIVITIES

Leadership

- IEEE Computational Finance and Economics Technical Committee (CFE TC) (Chair: 2020, Member: 2013, 2016, 2018, 2019)
- Portfolio Optimisation Task Force, IEEE Computational Finance and Economics Technical Committee (Chair: 2018-2019)

Editorship

- Guest Editor, Special Issue in Computational Finance and Economics, Evolutionary Intelligence, Springer (2016)
- Guest Editor, Special Issue in Discrete Dynamics in Evolutionary Computation and Its Application, Discrete Dynamics in Nature and Society, Hindawi (2016)

Grant Panel Membership

- Member, Engineering, Physical and Space Sciences (EPSS), Newton Fund Programme, British Council (August 2015 - March 2016, July 2018 - March 2020)

Conference Organisation

- Symposium Co-Chair, IEEE Computational Intelligence for Financial Engineering and Economics (CIFEr), Symposium Series in Computational Intelligence (2020)
- Chair, Special Session in Evolutionary Algorithms in Finance and Economics, IEEE Congress on Evolutionary Computation (CEC) (2019)
- Track Chair of EvoFin/EvoBAFIN, EvoStar (2015 - Now)
- Chair & Organising Committee for Computer Science and Electronic Engineering Conference (2011, 2012)

Conference Session Chair

- EvoBAFIN, EvoStar 2017, Amsterdam, Netherlands
- EvoBAFIN, EvoStar 2016, Porto, Portugal
- EvoFin, EvoStar 2015, Copenhagen, Denmark
- EvoFin, EvoStar 2014, Granada, Spain
- Genetic Programming: Theoretical and Practical Aspects, IEEE Congress on Evolutionary Computation (CEC) 2013, Cancun, Mexico
- Computational Finance, 3rd Computer Science and Electronic Engineering Conference (CEEC-2011), University of Essex, UK

Programme/Technical Committee Member

- Genetic and Evolutionary Computation Conference (GECCO) 2014-2019
- IEEE Congress on Evolutionary Computation (CEC) 2014-2019
- IEEE Computational Intelligence for Financial Engineering & Economics (CIFEr) 2014-2019
- EvoFin/EvoBAFIN, EvoStar 2015-2017
- IEEE International Autumn Meeting on Power, Electronics and Computing 2015-2017
- Frontiers and Advances in Data Science (FADS) 2017
- Duke Forest Conference 2016: Economics in the Era of Natural Computationalism and Big Data, Nort Carolina, USA
- Big Data: The 2nd International Workshop on Big Data, International Conference on Cyber-enabled distributed computing and knowledge discovery, Shanghai, China, 2014

- Computer science and Electronic Engineering Conference (CEEC), School of Computer Science and Electronic Engineering, University of Essex, 2011, 2012

Research Visits

- AI-Econ Centre, Department of Economics, NCCU, Taiwan (Jun 2009 - Sep 2009)
- AI-Econ Centre, Department of Economics, NCCU, Taiwan (Sep 2008 - Dec 2008)

Reviewer

- International Journal of Applied Pattern Recognition (IJAPR) (2020)
- Natural Sciences and Engineering Research Council of Canada (NSERC) (2020)
- Genetic Programming and Evolvable Machines (2020, 2019, 2016 (twice), 2015)
- Swarm and Evolutionary Computation (2020, 2019)
- Operations Research Journal (2018)
- Metaheuristics (2018)
- Newton Fund, British Council (July 2018 - March 2020)
- Knowledge-Based Systems (2018)
- Information Sciences (2018 (twice), 2015-three times)
- IEEE Computational Intelligence Magazine (2018) (three times)
- Memetic Computing (2017) (twice), 2014
- Expert Systems with Applications (2017, five times)
- IEEE Transactions on Emerging Topics in Computational Intelligence (2017)
- Artificial Intelligence Review (2017, 2016)
- International Journal of Bio-Inspired Computation (IJBIC) (2017, 2015, 2013)
- ACM Computing Surveys (2016)
- Intelligent Decision Technologies: An International Journal (2016)
- International Journal of Pattern Recognition (2016)
- International Journal of Metaheuristics (2016 (twice), 2014)
- International Journal of Information Technology & Decision Making (2016, twice)
- Special Issue on Research Advances and Applications of Evolutionary Computation, Computation y Sistemas (2016)
- Computational Economics (2016, twice)
- Newton Fund Programme, Travel Grants, British Council (2015)
- Newton Fund, IDEA Programme, British Council (2015)
- Computational Intelligence (2015-twice)
- IEEE Transactions on Evolutionary Computation (2014, 2012-twice)
- Quantitative Finance (2014)
- Discrete Dynamics in Nature and Society (2014)
- Journal of New Generation Computing (2014)
- International Journal of Systems Science: Operations & Logistics (2014)
- Journal of Zhejiang University Science C (Computers & Electronics) (2014, 2013)
- Intelligent Systems in Accounting, Finance and Management (2013)
- IEEE Transactions on Systems, Man and Cybernetics (Part C) (2012)

Tutorial Instructor

- IEEE Congress on Evolutionary Computation (CEC), Cancun, Mexico (2013)

Invited Talks

- Guest Lecture, CF963-Learning and Computational Intelligence in Economics and Finance (MSc Module), Centre for Computational Finance and Economic Agents, University of Essex (2011, 2012, 2013, 2015)

Internal Examiner

- PhD Examination for Dr Keith Greenhow, School of Computing, University of Kent (November 2017)

External Examiner

- Ran Tao, School of Computer Science and Electronic Engineering, University of Essex (July 2018)
- Ivan Contreras, Universidad Complutense de Madrid (July 2014)

Appendix IV

LIST OF PUBLICATIONS

Edited Books:

E1 Squillero, G., Sim, K. et al. (Eds.): "Applications of Evolutionary Computation, Proceedings of the 20th European Conference, EvoApplications 2017, Lecture Notes in Computer Science, Part I, Vol. 10199, Springer (2017)

E2 Squillero, G., Sim, K. et al. (Eds.): "Applications of Evolutionary Computation, Proceedings of the 20th European Conference, EvoApplications 2017, Lecture Notes in Computer Science, Part II, Vol. 10200, Springer (2017)

E3 Brabazon, A. Kampouridis, M. (Eds): "S.I.: Computational Finance and Economics', Evolutionary Intelligence, Springer (2016)

E4 Squillero, G., Burelli, P. et al. (Eds.): "Applications of Evolutionary Computation, Proceedings of the 19th European Conference, EvoApplications 2016, Lecture Notes in Computer Science, Part I, Vol. 9597, Springer (2016)

E5 Squillero, G., Burelli, P. et al. (Eds.): "Applications of Evolutionary Computation, Proceedings of the 19th European Conference, EvoApplications 2016, Lecture Notes in Computer Science, Part II, Vol. 9598, Springer (2016)

E6 Kim, Y-H., Kattan, A. Kampouridis, M., Yoon, Y. (Eds): "Discrete Dynamics in Evolutionary Computation and Its Applications", Discrete Dynamics in Nature and Society, vol. 2016, ISSN: 1607-887X (Online), DOI: 10.1155/3059, Hindawi (2016)

E7 Mora, A. M., Squillero, G. et al. (Eds.): "Applications of Evolutionary Computation", Proceedings of the 18th European Conference, EvoApplications 2015, Lecture Notes in Computer Science, Vol. 9028, Springer (2015)

Peer-Reviewed Journals:

J1 Brabazon, A., Kampouridis, M., O'Neill, M.: "Applications of Genetic Programming to Finance and Economics: Past, Present, Future", Genetic Programming and Evolvable Machines (Invited Article), (2019) IF 1.333

J2 Cramer, S, Kampouridis, M., Freitas, A. A., Alexandridis, A.: "Stochastic Model Genetic Programming: Deriving Pricing Equations for Rainfall Weather Derivatives", Swarm and Evolutionary Computation, (2019) IF 3.818

J3 Cramer, S, Kampouridis, M., Freitas, A. A.: "Decomposition Genetic Programming: An Extensive Evaluation on Rainfall Prediction in the Context of Weather Derivatives", Applied Soft Computing, Elsevier, Vol. 70C, pp. 208-224 (2018) IF 3.541

J4 Cramer, S., Kampouridis, M., Freitas, A.A., Alexandridis, A.: "An Extensive Evaluation of Seven Machine Learning Methods for Rainfall Prediction in Weather Derivatives", Expert Systems with Applications, Elsevier, Vol. 85, pp. 169-181 (2017) IF: 2.981

J5 Kampouridis, M., Otero, F.: "Evolving Trading Strategies Using Directional Changes", Expert Systems with Applications, Elsevier, Vol. 73, pp. 145-160 (2017) IF: 2.981

J6 Alexandridis, A., Kampouridis, M., Cramer, S.: "A Comparison between Wavelet Networks and Genetic Programming in the Context of Temperature Derivatives", International Journal of Forecasting, Volume 33 (1), Elsevier, pp. 21-47 (2017) IF: 1.626

J7 Kampouridis, M., Otero, F.: "Heuristic Procedures for Improving the Predictability of a GP Financial Forecasting Algorithm", Soft Computing, Springer, Vol. 21 (2), pp. 295-310 (2017) IF: 1.630

J8 Vastardis, N., Kampouridis, M., Yang, K.: "A User Behaviour-driven Smart-Home Gateway for Energy Management", Journal of Ambient Intelligence and Smart Environments, Vol. 8 (6), pp. 583 - 602 (2016) IF: 0.707

J9 Kampouridis, M., Alsheddy, A., Tsang, E.: "Hyper-Heuristics Applications to a Financial Forecasting Problem", Annals of Mathematics and Artificial Intelligence, Springer, Vol. 68 (4), pp. 225-246 (2013) IF: 0.944

J10 Kampouridis, M., Tsang, E.: "Investment Opportunities Forecasting: Extending the Grammar of a GP-based Tool", International Journal of Computational Intelligence Systems, Vol. 5 (3), pp. 530-541 (2012) IF: 0.391

J11 Kampouridis, M., Chen, S.-H., Tsang, E.: "Microstructure Dynamics and Agent-Based Financial Markets: Can Dinosaurs Return?", Advances in Complex Systems, Vol. 15 (5), pp. 1-27 (2012) ABS Ranking: 3*

J12 Kampouridis, M., Chen, S.-H., Tsang, E.: "Market Fraction Hypothesis: A Proposed Test", International Review of Financial Analysis, Vol. 23, pp. 41-54 (2012) ABS Ranking: 3*

Peer-Reviewed Book Chapters:

BC1 Kampouridis, M., Chen, S.-H., Tsang, E.: "Market Microstructure: A Self-Organizing Map Approach to Investigate Behavior Dynamics under an Evolutionary Environment", in Brabazon, A., O'Neil, M. (Eds.), Natural Computing in Computational Finance, Volume 4, Studies in Computational Intelligence Series, Springer (2011).

BC2 Kampouridis, M., Chen, S.-H., Tsang, E.: "The Market Fraction Hypothesis under different Genetic Programming algorithms", in Yap, A. (Ed.), Information Systems for Global Financial Markets: Emerging Developments and Effects, IGI Global, Chapter 3, pp. 37-54 (2011).

Peer-Reviewed Papers in Conference Proceedings:

C1 Adegboye, A., Kampouridis, M., Johnson, C. G.: "Regression Genetic Programming for eEtimating Trend End in Foreign Exchange Market", IEEE Symposium on Computational Intelligence for Financial Engineering & Economics (CIFEr), IEEE Symposium Series on Computational Intelligence, Honolulu, Hawaii, pp. TBA (2017)

C2 Kampouridis, M., Adegboye, A., Johnson, C. G: "Evolving Directional Changes Trading Strategies with a New Event-based Indicator", in SEAL 2017, Lecture Notes in Computer Science (LNCS), pp. TBA (2017)

C3 Cramer, S., Kampouridis, M., Freitas, A. A., Alexandridis, A.: "Pricing Rainfall Based Futures Using Genetic Programming", in G. Squillero, K. Sim, et al. (Eds.): EvoApplications 2017, Lecture Notes in Computer Science (LNCS) 10199, pp. 17 – 33 (2017)

C4 Cramer, S., Kampouridis, M., Freitas, A. A.: "A Genetic Decomposition Algorithm for Predicting Rainfall within Financial Weather Derivatives", Genetic and Evolutionary Computation Conference (GECCO), Denver, Colorado, USA (2016)

C5 Cramer, S, Kampouridis, M., Freitas, A. A.: "Feature Engineering for Improving Financial Derivatives-based Rainfall Prediction", IEEE Congress on Evolutionary Computation (CEC), Vancouver, Canada (2016)

C6 Cramer, S., Kampouridis, M., Freitas, A. A., Alexandridis, A.: "Predicting Rainfall in the Context of Rainfall Derivatives Using Genetic Programming", IEEE Symposium on Computational Intelligence for Financial Engineering & Economics (CIFEr), IEEE Symposium Series on Computational Intelligence, Cape Town, South Africa, pp. 711 – 718 (2015)

C7 Cramer, S., Kampouridis, M.: "Guided Local Search for the Intelligent Deployment of Fibre Optic Networks", IEEE Congress on Evolutionary Computation, Shendai, Japan, pp. 799 – 806 (2015)

C8 Gypteau, J., Otero, F., Kampouridis, M.: "Generating Directional Change Based Trading Strategies with Genetic Programming", in A.M. Mora and G. Squillero (Eds.): EvoApplications 2015, Lecture Notes in Computer Science (LNCS) 9028, Chapter 22, pp. 1-12 (2015)

C9 Brookhouse, J., Otero, F., Kampouridis, M.: ""Working with OpenCL to Speed Up a Genetic Programming Financial Forecasting Algorithm: Initial Results", EvoSoft, GECCO, Vancouver, Canada (2014)

C10 Kattan, A., Kampouridis, M., Ong, Y.-S., Mehamdi, K.: "Transformation of Input Space using Statistical Moments: EA-Based Approach", IEEE World Congress on Evolutionary Computation (WCCI), Beijing, China (2014)

C11 Kattan, A., Kampouridis, M., Agapitos, A.: "Generalisation Enhancement via Input Space Transformation: A GP Approach", Genetic Programming, Proceedings of the 17th European Conference, EuroGP, EvoStar, Granada, Spain (2014)
Nominated for Best Paper Award

C12 Otero, F., Kampouridis, M.: "A Comparative Study on the Use of Classification Algorithms in Financial Forecasting", Proceedings of the 17th European Conference, EvoApplications, Evostar, Granada, Spain (2014)

C13 Aluko, B., Smonou, D., Kampouridis, M., Tsang, E., "Combining Different Meta-heuristics to Improve the Predictability of a Financial Forecasting Algorithm", IEEE Computational Intelligence for Financial Engineering & Finance (CIFEr), London, UK (2014)

C14 Shao, M., Smonou, D., Kampouridis, M., Tsang, E.:"Guided Fast Local Search for Speeding Up a Financial Forecasting Algorithm", IEEE Computational Intelligence for Financial Engineering & Economics (CIFEr), London, UK (2014)

C15 Kampouridis, M., Otero, F.: "Using Attribute Construction to Improve the Predictability of a GP Financial Forecasting Algorithm", in 2013 Conference on Technologies and Applications of Artificial Intelligence (TAAI), IEEE Conference Publishing Services (CPS), pp. 55-60 (2013)

C16 Alexandridis, A., Kampouridis, M.: "Temperature Forecasting in the Concept of Weather Derivatives: A Comparison between Wavelet Networks and Genetic Programming", in L. Iliadis, H. Papadopoulos, and C. Jayne (Eds.): EANN 2013, Part I, CCIS 383, pp. 12–21, Springer, Heidelberg (2013)

C17 Smonou, D., Kampouridis, M., Tsang, E.: "Metaheuristics Application on a Financial Forecasting Problem", IEEE Congress on Evolutionary Computation (CEC), Cancun, Mexico, pp. 1021-1028 (2013)

C18 Kampouridis, M.: "An Initial Investigation of Choice Function Hyper-Heuristics for the Problem of Financial Forecasting", IEEE Congress on Evolutionary Computation (CEC), Cancun, Mexico, pp. 2406-2413 (2013)

C19 Kampouridis, M., Sim, K.M.: "A GP approach for Price-Speed Optimizing Negotiation", IEEE Congress on Evolutionary Computation (CEC), Cancun, Mexico, pp. 1170-1177 (2013)

C20 Rais Shaghaghi, A., Glover, T., Kampouridis, M., Tsang, E.: "Guided Local Search for Optimal GPON/FTTP Network Design", In: Chaki, N., Meghanathan, N., Nagamalai, D. (Eds.): Proceedings of the Fourth International Conference on Networks & Communications, Lecture Notes in Electrical Engineering, Vol. 131, pp. 255-263, Springer (2013)

C21 Kampouridis, M., Glover, T., Rais Shaghaghi, A., Tsang, E.: "Using a Genetic Algorithm as a Decision Support Tool for the Deployment of Fiber Optic Networks", IEEE World Congress on Computational Intelligence (WCCI), Brisbane, Australia (2012)

C22 Alsheddy, A., Kampouridis, M., "Off-line Parameter Tuning for Guided Local Search Using Genetic Programming", IEEE World Congress on Computational Intelligence (WCCI), Brisbane, Australia (2012)

C23 Kampouridis, M., Chen, S.-H., Tsang, E.: " Market Microstructure: Can Dinosaurs Return? A Self-Organizing Map Approach under an Evolutionary Framework", in C. Di Chio et al. (Eds.): EvoApplications 2011, Part II, LNCS 6625, pp. 91–100. Springer, Heidelberg (2011)

C24 Kampouridis, M., Chen, S.-H., Tsang, E.,"Investigating the Effect of Different GP Algorithms on the Non-Stationary Behavior of Financial Markets", IEEE Symposium on Computational Intelligence for Financial Engineering & Economics, 11-15 April 2011, Paris, France, IEEE Xplore (2011)

C25 Kampouridis, M., Tsang, E.: "Using Hyperheuristics under a GP framework for Financial Forecasting", C.A. Coello Coello (Ed.): LION 5, LNCS 6683, pp. 16–30. Springer, Heidelberg (2011)

C26 Chen, S.-H., Kampouridis, M., Tsang, E.: "Microstructure Dynamics and Agent-Based Financial Markets", In Multi-Agent-Based Simulation XI, 11th International Workshop, Toronto, Canada, Revised Papers, LNAI, Springer-Verlag, pp. 121-135 (2010)

C27 Kampouridis, M., Tsang, E.: "EDDIE for Investment Opportunities Forecasting: Extending the Search Space of the GP", In Proceedings of the IEEE World Congress on Computational Intelligence (WCCI), Barcelona, Spain, pp. 2019-2026 (2010)

C28 Kampouridis, M., Chen, S.-H., Tsang, E.: "Testing the Dinosaur Hypothesis under Empirical Datasets", In R. Schaefer et al. (Eds.): PPSN XI, Part II, LNCS 6239, pp. 199–208. Springer, Heidelberg (2010)

C29 Chen, S.-H., Kampouridis, M., Tsang, E.: "Microstructure Dynamics and Agent-Based Financial Markets", In Proceedings of the 11th International Workshop on Multi-Agent-Based Simulation, Toronto, pp. 117-128 (2010)

C30 Kampouridis, M., Chen, S.-H., Tsang, E.: "Testing the Dinosaur Hypothesis Under Different GP Algorithms", Proceedings of the UKCI Workshop, Essex, IEEE Xplore (2010)

Theses:

D1 Kampouridis, M.: "Computational Intelligence in Financial Forecasting and Agent-Based Modeling: Applications of Genetic Programming and Self-Organizing Maps", PhD Thesis, University of Essex (2011)

D2 Kampouridis, M.: "An Intelligent Tutoring System for Java", MSc Thesis, University of Essex (2006)

Media:

M1 My research on EDDIE was featured in an article at the Automated Trader magazine, Issue 28 Q2 2013, p. 21: "Sex, death and the quest for algorithmic glory", by Automated Trader Editor Adam Cox (2013)

Tutorials:

T1 An application of Genetic Programming to Financial Forecasting, IEEE Congress on Evolutionary Computation (CEC), Cancun, Mexico (2013)