Dr Michael Kampouridis

PhD, MSc, PGCHE, BSc, SFHEA, SMIEEE

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

E-mail: mkampo@essex.ac.uk
URL1: http://kampouridis.net
URL2: https://www.essex.ac.uk/people/kampo18201

EMPLOYMENT

Apr 2020 - Present **Sch. of Comp. Science and Electr. Engineering, University of Essex**
Faculty Dean Postgraduate, Faculty of Science & Health (August 2024 - Present)
Reader (October 2023 - Present)
Senior Lecturer (October 2021 - September 2023)
Lecturer (April 2020 - September 2021)

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

Oct 2020 - Mar 2024 **Sch. of Comp. Science and Electr. Engineering, University of Essex**

- CF962 - Quantitative Methods in Finance and Trading.
  Topics: Returns, Distributions, VaR, Portfolio Optimisation, Time Series, Stochastic Processes, AR/MA, AR(I)MA, (G)ARCH models
- CE303 - Advanced Programming (2020, 2021)
  Topics: C#, Java, Haskell. Sockets, Web Services, Generics, Streams, Programme Design and Optimisation.
- CF981 - MSc Dissertation (2021, 2022)
  Module supervisor

Teaching methodology: flipped classroom, with pre-recorded videos.

Sep 2012 - Mar 2020 **School of Computing, University of Kent**

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

- CO323 - Databases and the Web (2012 - 2019)
  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 - 2018)
  Topics: Web servers, PHP Frameworks (CodeIgniter), jQuery, AJAX, Web Services, Android Development.
- CO542 - Foundations of Information Technology and Computing (2014 - 2019)
  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 - 2019)
  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

PUBLICATIONS

- 7 edited book proceedings
- 27 peer-reviewed journal papers
- 2 peer-reviewed book chapters
- 55 peer-reviewed papers in conference proceedings

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

GRANTS

Total value of grants and scholarships: approx **£3.4M**
A detailed list of these grants, scholarships and prizes can be found in Appendix II.

PhD SUPERVISION

2020 - Present **Sch. of Comp. Science and Electr. Engineering, University of Essex**

- Mr Ogechukwu Kingsley Umeh (October 2026 - Present). First/Main supervisor.
- Mr Adam Spano (October 2025 - Present). First/Main supervisor.
- Mr Karthik Kolluri (October 2025 - Present) Second supervisor.
- Mr Andrew Clayman (October 2025 - Present). First/Main supervisor.
- Mr Mazen Mohmed (October 2025 - Present). First/Main supervisor.
- Mr Sulaiman Kiani (October 2025 - Present). First/Main supervisor.
- Mr Rio Surendran (October 2024 - Present). First/Main supervisor.
- Mr Sirui Zhu (January 2024 - Present). First/Main supervisor.
- Mr Raghav Sharma (P/T, January 2023 - Present). First/Main supervisor.
- Mr Nee Barnor (P/T, October 2022 - Present). First/Main supervisor.
- Dr Ivan Evdokimov (October 2021 - September 2025 [**Completed**]). Sole supervisor.
- Dr George Rayment (October 2021 - October 2025 [**Completed**]). Sole supervisor.
- Dr Evangelia Christodoulaki (October 2020 - June 2024 [**Completed**]). Sole supervisor.
- Dr Fatima Habbab (October 2020 - October 2024 [**Completed**]). Sole supervisor.
- Dr Xinpeng Long (October 2020 - March 2025 [**Completed**]). Sole supervisor.
- Dr Ozgur Salman (October 2020 - August 2024 [**Completed**]). First/Main supervisor.

Nominated for the PhD Supervisor of the Year Award in years 2022-2024.

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

- Dr Adesolah Noah Adegboye (P/T, January 2016 - March 2022 [**Completed**]). First/Main supervisor.
- Dr Sam Cramer (September 2013 - October 2017 [**Completed**]). First/Main supervisor.

LEADERSHIP EXPERIENCE

School of Computer Science and Electronic Engineering, University of Essex

- Faculty Dean (Postgraduate), Science & Health (August 2024 - Present)
- Deputy Director of Education (September 2023 - July 2024)
- Director of the Centre for Computational Finance and Economic Agents (CCFEA) (September 2023 - July 2024)
- Director of Examinations (PGT) (August 2020 - October 2022)
- Chair of the PGT Extenuating Circumstances Committee (August 2020 - October 2022)
- Chair of the PGT Pre-Board of Examiners (August 2020 - October 2022)
- Member of the Research Students' Progress Board (August 2020 - October 2022)
- PGR Admissions Selector (CCFEA) (Aug 2020 - October 2022)
- Deputy Director of Graduate Studies (August 2021 - October 2022)
- Assessor for applications for Fellowship for Higher Education Academy (CADENZA) (January 2021 - October 2022)

- Faculty Representantive (Science & Health) for CADENZA Panel (March 2021 - March 2022)
- Degree Apprenticeships Coordinator (May 2022 - October 2022)

School of Computing, University of Kent
External Examiner for BSc Computer Science (2025 - 2028)

Southampton Business School, University of Southampton
External Examiner for MSc in Risk Management programme (2024 - 2027)

School of Natural and Computing Sciences, University of Aberdeen
External Examiner for UG Computer Science, Artificial Intelligence and Business Information Systems SCNU Joint Institute (2023 - 2027)

Department of Computing, Goldsmiths, University of London
External Examiner for MSc in Data Science programme (2023 - 2026)

School of Computer Science and Engineering, University of Westminster
External Examiner for BSc in Data Science programme (2020 - 2025)

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)

PROFESSIONAL MEMBERSHIPS

- Senior Fellow of the Higher Education Academy (SFHEA) (2025)
- IEEE Computational Finance and Economics Technical Committee (CFE TC) (Chair: 2020-2021, Member: 2013, 2016, 2018, 2019)
- Portfolio Optimisation Task Force, IEEE Computational Finance and Economics Technical Committee (Chair: 2018-2019)
- IEEE Computational Intelligence Society (CIS) (2007 - 2014, 2018 - Present)
- IEEE Intelligent Systems Applications Technical Committee (ISA TC) (2014)
- IEEE CIS Young Professionals Subcommittee (2014)

Additional professional activities can be found in Appendix III.

SKILLS AND ACTIVITIES

Computing

Programming Languages: Java, MATLAB, C#, Python, Haskell

Data Science / Data Mining: Sklearn, Weka

Databases: MySQL

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

Foreign Languages

Chinese (Mandarin dialect): Intermediate

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

My PhD students and I have used machine learning (ML) in many areas of finance: algorithmic trading, directional changes, volatility forecasting, future cash flow growth, sentiment analysis for the stock market, real estate investment trusts, and temperature and rainfall weather derivatives. My work falls into four themes.

Evolutionary algorithms and genetic programming for trading

Genetic programming (GP) remains at the core of my work. Much of it uses directional changes, an event-based way of sampling prices that captures turning points that fixed time intervals miss. Recent work combines technical, fundamental and sentiment signals in strongly-typed GP, and optimises trading strategies against several objectives at once.

Deep reinforcement learning for high-frequency trading

We train deep reinforcement learning agents to trade high-frequency currency data sampled with directional changes. A recurring focus is making agents aware of their own position and of trading costs, which is where many published strategies fail in practice.

Large language models and NLP for finance

We use language models both as signals and as tools. Current projects integrate FinBERT sentiment into strongly-typed GP, recover the logical structure of financial filings with large language models, and use LLMs to generate trading strategies.

Forecasting for weather derivatives, real estate and company fundamentals

Weather derivatives have no accepted pricing framework, so we build ML and GP models that forecast the underlying temperature and rainfall. The same forecasting toolkit extends to real estate investment trusts, mixed-asset portfolios and fundamental valuation measures such as free cash flow growth.

Separately from this research, I lead industry and consultancy projects, including Knowledge Transfer Partnerships, that apply ML to business and public-sector problems of all kinds (see Appendix II).

Appendix II

GRANTS, SCHOLARSHIPS and PRIZES

Feb 2026 **University of Essex Innovation Fund**
Otters.ai. PI. Value: **£14,992.07**

Sep 2025 **Manchester Business Growth Hub**
R&B Switchgear Services Ltd. Intelligent Data Capture & Insight Platform for Engineering and Manufacturing Operations. PI. Value: **£10,406.44**

Jul 2025 **General Lighthouse Authorities of the UK and Ireland**
Machine Vision for the GLA. PI. Value: **£29,830.33**

Mar 2025 **Knowledge Transfer Partnership, Innovate UK**
General Lighthouse Authorities of the UK and Ireland. Academic Lead / PI. Value: **£286,929.02**

March 2025 **Knowledge Transfer Partnership, Innovate UK**
Cooper Parry Ltd. Academic Lead / PI. Value: **£237,347**

Mar 2025 **Footprint Digital Ltd**
Develop an AI model and tool for search traffic forecasting and performance projection. Co-PI. Consultancy. Value: **£10,030.63**

Feb 2025 **General Lighthouse Authorities of the UK and Ireland**
Statistical Analysis on AtoN Faults. PI. Consultancy. Value: **£5,000**

Jan 2025 **Knowledge Transfer Partnership, Innovate UK**
Centerprise Ltd. Academic Lead / PI. Value: **£313,497**

Jan 2025 **Manchester Business Growth Hub**
Fingerpost Consulting Ltd. A Manchester Growth Hub Project to review the components in a Market Access Rapid Review Document. PI. Value: **£12,020.70**

Nov 2024 **Knowledge Transfer Partnership, Innovate UK**
Horus Security Ltd. Academic Lead / PI. Value: **£266,628**

Oct 2024 **Manchester Business Growth Hub**
Betascore Ltd. A consultancy project to develop a financial health technology platform/service for "Credit Invisibles". PI. Value: **£12,257.63**

Nov 2024 **Bebergh and Mid Suffolk (Innovate to Elevate)**
Otters.ai. PI. Value: **£11,442.54**

Oct 2024 **Manchester Business Growth Hub**
Voono Ltd. Improving the Assistant Coach function on a fantasy league game website. PI. Value: **£12,223.81**

Sep 2024 **Knowledge Transfer Partnership, Innovate UK**
Hivedome Ltd. Academic Lead / PI. Value: **£259,910**

Jan 2024 **General Lighthouse Authorities of the UK and Ireland**
Trinity House Exercise Name: T0522 - Representation of Aids to Navigatin (AtoN) in AI models. PI. Value: **£48,969.24**

Jul 2023 **DOCME Technologies Ltd**
Evaluation of running AI driven computations via App on personal devices instead of via cloud based systems. PI. Consultancy. Value: **£9,578.54**

Jun 2023 **Knowledge Transfer Partnership, Innovate UK**
Hood Group Ltd. Academic Supervisor / PI. Value: **£257,426**

Jun 2023 **General Lighthouse Authorities of the UK and Ireland**
Applicability of Machine Learning to GLAs (Phase 3). PI. Consultancy. Value: **£14,944**

Apr 2023 **Knowledge Transfer Partnership, Innovate UK**
IFE Global Logistics UK Ltd. Academic Lead / PI. Value: **£269,286**

Feb 2023 **Knowledge Transfer Partnership, Innovate UK**
Icene Projects Ltd. Academic Supervisor / PI. Value: **£252,276**

Nov 2022 **Knowledge Transfer Partnership, Innovate UK**
PFE Express Ltd. Academic Supervisor/ Co-I. Value: **£264,595**

Nov 2022 **East Suffolk and North Essex NHS Foundation Trust**
Reducing the waiting list time for patients. PI. Value: **£223,501**
(Received the Best Partnership: Public Sector Award for 2024 at the University of Essex Innovation Awards)

Aug 2022 **PFE Express Ltd**
Automation of processes and in-house systems. PI. Consultancy. Value: **£4,760**

Jun 2022 **General Lighthouse Authorities of the UK and Ireland**
Applicability of Machine Learning to GLAs (Phase 2). PI. Consultancy. Value: **£20,250**

Sep 2021 **Knowledge Transfer Partnership, Innovate UK**
Horus Security Consultancy Ltd. Academic Lead / PI. Value: **£247,290**

Sep 2021 **Knowledge Transfer Partnership, Innovate UK**
Shepherd Compello Ltd. Academic Supervisor / Co-I. Value: **£254,341**

Sep 2021 **General Lighthouse Authorities of the UK and Ireland**
Applicability of Machine Learning to GLAs (Phase 1). PI. Consultancy. Value: **£: 13,500**

Aug 2020 **EIRA Innovation Voucher**
Can data mining analyse financial and behavioural information gathered through survey questions from the DoMeg platform? PI. Value: **£7,475**

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

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

Apr 2014 **University of Kent**
Faculty of Sciences Research Fund for purchasing FX high-frequency data. PI. 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 travelling 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: 2020-2021, 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, UKRI Talent Peer Review College (February 2023 - Now)
- Member, Engineering, Physical and Space Sciences (EPSS), Newton Fund Programme, British Council (August 2015 - March 2016, July 2018 - March 2020)

Conference Organisation

- General Chair, IEEE Computational Intelligence for Financial Engineering and Economics (CIFEr) (2022)
- Chair, Special Session in Evolutionary Algorithms in Finance and Economics, IEEE Congress on Evolutionary Computation (CEC) (2019, 2021)
- Symposium Co-Chair, IEEE Computational Intelligence for Financial Engineering and Economics (CIFEr), Symposium Series in Computational Intelligence (2020)
- Track Chair of EvoFin/EvoBAFIN, EvoStar (2015 - 2017)
- 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) 2014-2020
- IEEE Congress on Evolutionary Computation (CEC) 2014-2020, 2022
- IEEE Computational Intelligence for Financial Engineering & Economics (CIFEr) 2014-Now
- EvoFin/EvoBAFIN, EvoStar 2015-2017
- IEEE International Autumn Meeting on Power, Electronics and Computing 2015-2017
- Frontiers and Advances in Data Science (FADS) 2017

- IEEE International Autumn Meeting on Power, Electronics and Computing (ROPEC) 2015-2016
- Duke Forest Conference 2016: Economics in the Era of Natural Computationalism and Big Data, North 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

- Expert Systems with Applications (2022, 2017, five times)
- IEEE Transactions on Emerging Topics in Computational Intelligence (2022, 2017)
- Swarm and Evolutionary Computation (2021, 2020, 2019)
- Machine Learning (MACH) (2021, 2020)
- Journal of Banking and Finance (2020)
- International Journal of Applied Pattern Recognition (IJAPR) (2020)
- Natural Sciences and Engineering Research Council of Canada (NSERC) (2020)
- Inderscience Publishers (2020)
- Genetic Programming and Evolvable Machines (2020, 2019, 2016 (twice), 2015)
- 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
- 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)

PhD Internal Examiner
- Shengnan Li, CSEE, University of Essex (2022)
- Ma Shuai, CSEE, University of Essex (2021)
- Keith Greenhow, School of Computing, University of Kent (2017)

PhD External Examiner
- Zander Wessels, Stellenbosch University, South Africa (October 2024)
- Attilio Sbrana, Instituto Tecnologico de Aeronautica, Brazil (June 2023)
- Fang Fan, King's College London (March 2023)
- Enrique Gonzalez, Technologico de Monterrey, Mexico (March 2022 - December 2023)
- Ran Tao, CSEE, University of Essex (July 2018)
- Ivan Contreras, Universidad Complutense de Madrid (July 2014)

Appendix IV

LIST OF PUBLICATIONS

Articles submitted to REF exercises are indicated by pre-fixing **REF**.

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 Christodoulaki, E., Kampouridis, M.: "Strongly-typed genetic programming with an active trading operator for algorithmic trading using fundamental, sentiment, and technical analysis", Applied Soft Computing, Elsevier, Vol. 204, pp. 116566 (2026)

J2 Barnor, N., Kampouridis, M., Kanellopoulos, P., "Machine Learning for Temperature Forecasting in Weather Derivatives", Artificial Intelligence Review, Springer Nature (2026) IF 13.9

J3 Salman, O., Melissourgos, T., Kampouridis, M., "A Genetic Algorithm for the Optimization of Multi-Threshold Trading Strategies in the Directional Changes Paradigm", Artificial Intelligence Review, Springer Nature (2025) IF 13.9

J4 Long, X, Kampouridis, M., Papastylianou, T., "Multi-Objective Genetic Programming-based Algorithmic Trading, using Directional Changes and a Modified Sharpe Ratio Score for Identifying Optimal Trading Strategies", Artificial Intelligence Review, Springer Nature (2025) IF 13.9

J5 Long, X., Kampouridis, M., Kanellopoulos, P., "An In-Depth Investigation of Genetic Programming Under Physical Time and Directional Change Frameworks for Algorithmic Trading", IEEE Access (2025) IF 3.6

J6 Christodoulaki, E., Kampouridis, M., Kyropoulou, M., "A novel strongly-typed Genetic programming algorithm for combining sentiment and technical analysis for algorithmic trading", Knowledge-Based Systems, Vol. 311, 113054, Elsevier (2025) IF 7.2

J7 Habbab, F.Z., Kampouridis, M., Papastylianou, T., "Improving Real Estate Investment Trusts (REITs) Time-Series Prediction Accuracy Using Machine Learning and Technical Analysis Indicators", Artificial Intelligence Review, Springer (2024) IF 10.7

J8 Gonzalez-Nunez, E., Trejo, L. A., Kampouridis, M., "Expanding a Machine Learning Class Towards its Application to the Stock Market Forecast", Applied Intelligence, Springer (2024) IF 3.4

J9 Gonzalez N., E., Trejo, L. A., Kampouridis, M.: "A Comparative Study for Stock Market Forecast Based on a New Machine Learning Model", Big Data and Cognitive Computing, MDPI (2024) IF 3.7

J10 Habbab, F.Z., Kampouridis, M.: "An in-depth investigation of five machine learning algorithms for optimizing mixed-asset portfolios including REITs", Expert Systems with Applications, Elsevier (2023) IF 8.665

J11 Evdokimov, I., Kampouridis, M., Papastylianou, T.: "Application of Machine Learning Algorithms to Free Cash Flows Growth Rate Estimation", Procedia Computer Science, Elsevier (2023)

J12 Adegboye, A., Kampouridis, M., Otero, F.: "Algorithmic trading with directional changes", Artificial Intelligence Review, Springer (2022) IF 9.588

J13 Kampouridis, M., Kanellopoulos, P., Kyropoulou, M., Melissourgos, T., and Voudouris, A.A.: "Multi-agent systems for computational economics and finance", AI Communications, IOS Press (2022) IF 1.029

J14 Adegboye, A., Kampouridis, M., Otero, F.: "Improving trend reversal estimation in Forex markets under a directional changes paradigm with classification algorithms", International Journal of Intelligent Systems, Wiley (2021) IF 8.709

J15 Adegboye, A., Kampouridis, M.: "Machine Learning Classification and Regression Models for Predicting Directional Changes Trend Reversal in FX Markets", Expert Systems with Applications, Vol. 173, pp. 114645, Elsevier (2021) IF 5.452

J16 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), Springer, (2019) IF 1.333

J17 **REF2021** Cramer, S, Kampouridis, M., Freitas, A. A., Alexandridis, A.: "Stochastic Model Genetic Programming: Deriving Pricing Equations for Rainfall Weather Derivatives", Swarm and Evolutionary Computation, Elsevier (2019) IF 3.818

J18 **REF2021** 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

J19 **REF2021** 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

J20 **REF2021** Kampouridis, M., Otero, F.: "Evolving Trading Strategies Using Directional Changes", Expert Systems with Applications, Elsevier, Vol. 73, pp. 145-160 (2017) IF: 2.981

J21 **REF2021** 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

J22 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

J23 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

J24 **REF2014** Kampouridis, M., Alsheddy, A., Tsang, E.: "On the Investigation of 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

J25 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

J26 **REF2014** 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*

J27 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 Kolluri, G.P.K.B., Kampouridis, M., Shekhar, R.: "Pruning for Efficiency, Paying in Fairness: Demographic Disparities in Pruned Speech-LLMs", Proceedings of the IMPACT-SPEECH Workshop: Identifying, Measuring, Preventing, and Assessing Consequences of Bias in Speech LLMs, Association for Computational Linguistics, pp. 67-80 (2026)

C2 Clayman, A., Kampouridis, M., Papastylianou, T.: "Large Language Quant: Cross-Domain Mathematical Trading Strategy Generation with an Agentic LLM", 2026 IEEE Symposium on Computational Intelligence for Financial Engineering and Economics (CIFEr), IEEE, pp. 171-180 (2026)

C3 Ahmed, M.M.N.M., Long, Y., Kampouridis, M., Tattersall, R., Clague, K.: "FINSTRUCT: LLM-Based Logical Structure Recovery for Financial Filings", Proceedings of the 2026 Conference on Empirical Methods in Natural Language Processing: Industry Track, Association for Computational Linguistics, pp. 1804-1818 (2026)

C4 Kolluri, G.P.K.B., Zhang, Y., Kampouridis, M., Shekhar, R.: "CARD: Cross-component Audio Representation Distillation for Encoder-Free Audio Captioning", IEEE Spoken Language Technology SLT 2026, IEEE (2026)

C5 Kolluri, K., Kampouridis, M., Shekhar, R., "On the Role of Encoder Depth: Pruning Whisper and LoRA Fine-Tuning in SLAM-ASR", SPEAKABLE, LREC, Palma, Mallorca 2026

C6 Rayment, G., Kampouridis, M., "Enhancing High-Frequency Trading with Deep Reinforcement Learning using Advanced Positional Awareness Under a Directional Changes Paradigm", IEEE International Conference on Machine Learning and Applications (ICMLA) 2024

C7 Long, X., Kampouridis, M., "Alpha-dominance two-objective Optimization Genetic Programming for Algorithmic Trading under a Directional Changes Environment", IEEE Symposium on Computational Intelligence for Financial Engineering & Risk (CIFEr) (2024)

C8 Sapkota, M.S., Doctor, F., Herrera, H., Kampouridis, M., Yang, X, "Machine Learning to Predict Surgery Duration: Towards Implementing AI and Digital Twin for Effective Scheduling", IEEE MedAI (2024)

C9 Habbab, F., Kampouridis, M.,"Optimising a Prediction-based, Mixed-asset portfolio including REITs", IEEE Symposium on Computational Intelligence for Financial Engineering & Risk (CIFEr) (2023)

C10 Rayment, G., Kampouridis, M., Adegboye, A., "Predicting Directional Change Reversal Points with Machine Learning Regression Models", IEEE Symposium on Computational Intelligence for Financial Engineering & Risk (CIFEr) (2023)

C11 Rayment, G., Kampouridis, M., "High Frequency Trading with Deep Reinforcement Learning Agents Under a Directional Changes Sampling Framework", IEEE Symposium on Computational Intelligence for Financial Engineering & Risk (CIFEr) (2023)

C12 Christodoulaki, E., Kampouridis, M., "Fundamental, Technical and Sentiment Analysis for Algorithmic Trading with Genetic Programming", IEEE Symposium on Computational Intelligence for Financial Engineering & Risk (CIFEr) (2023)

C13 Habbab, F., Kampouridis, M., Papastylianou, T.: "Improving REITs Time Series Prediction Using ML and Technical Analysis Indicators", IEEE International Joint Conference on Neural Networks (IJCNN), Queensland, Australia (2023)

C14 Salman, O., Kampouridis, M., Melissourgos, T.: "Optimization of Trading Strategies using a Genetic Algorithm under the Directional Changes Paradigm with Multiple Thresholds", IEEE Congress on Evolutionary Computation (CEC), Chicago, USA (2023)

C15 Christodoulaki, E., Kampouridis, M., Kyropoulou, M.: "Enhanced Strongly typed Genetic Programming for Algorithmic Trading", Genetic and Evolutionary Computation Conference (GECCO), Lisbon, Portugal (2023)

C16 Long, X., Kampouridis, M., Kanellopoulos, P.: "Multi-objective optimisation and genetic programming for combining directional changes and technical indicators", IEEE Congress on Evolutionary Computation (CEC), Chicago, USA (2023)

C17 Habbab, F.Z., Kampouridis, M., "Machine Learning for Real Estate Time Series Prediction", The 21st UK Workshop on Computational Intelligence (2022)

C18 Christodoulaki, E., Kampouridis, M., "Combining Technical and Sentiment analysis under a Genetic Programming algorithm", The 21st UK Workshop on Computational Intelligence (2022)

C19 Long, X., Kampouridis, M., Kanellopoulos, P., "Genetic programming for combining directional changes indicators in international stock markets", Parallel Problem Solving in Nature (PPSN) (2022)

C20 Habbab, F.Z., Kampouridis, M., "Optimizing Mixed-Asset Portfolio With Real Estate: Why Price Predictions?", IEEE Congress on Evolutionary Computation (CEC) (2022)

C21 Salman, O., Kampouridis, M., Jarchi, D., "Trading Strategies Optimization by Genetic Algorithm under the Directional Changes Paradigm", IEEE Congress on Evolutionary Computation (CEC) (2022)

C22 Long, X., Kampouridis, M., Jarchi, D., "An in-depth investigation of genetic programming and nine other machine learning algorithms in a financial forecasting problem", IEEE Congress on Evolutionary Computation (CEC) (2022)

C23 Christodoulaki, E., Kampouridis, M., "Using strongly typed genetic programming to combine technical and sentiment analysis for algorithmic trading", IEEE Congress on Evolutionary Computation (CEC) (2022)

C24 Habbab, F., Kampouridis, M., Voudouris, A.: "Optimizing Mixed-Asset Portfolios Involving REITs", IEEE Symposium on Computational Intelligence for Financial Engineering & Economics (CIFEr), Helsinki, Finland, (2022)

C25 Christodoulaki, E., Kampouridis, M., Kanellopoulos, P.: "Technical and Sentiment Analysis in Financial Forecasting with Genetic Programming", IEEE Symposium on Computational Intelligence for Financial Engineering & Economics (CIFEr), Helsinki, Finland, (2022)

C26 Adegboye, A., Kampouridis, M., Johnson, C. G.: "Regression Genetic Programming for Estimating 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)

C27 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)

C28 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)

C29 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)

C30 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)

C31 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)

C32 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)

C33 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)

C34 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)

C35 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)

C36 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

C37 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)

C38 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)

C39 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)

C40 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)

C41 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)

C42 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)

C43 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)

C44 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)

C45 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)

C46 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)

C47 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)

C48 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)

C49 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)

C50 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)

C51 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)

C52 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)

C53 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)

C54 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)

C55 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)