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## Current Positions

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- **Research Fellow** (December 2012 - today), Intelligent Systems and Software Engineering Labgroup, Information Processing Laboratory, Dept. of Electrical and Computer Engineering, Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece
- **Co-founder, Manager, Software Architect and Full-stack Developer** (November 2017 – today), Cyclopt P.C., a spin-off company of AUTH focusing on Software Quality and Engineering Operations (EngOps), Thessaloniki, Greece

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## Research Expertise

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- **Software Quality:** Research on assessing the quality of a software project and quantifying the various (ISO 25010) quality characteristics
- **Big Code:** Mining Software Repositories (MSR) and software related data with the goal of improving the various facets the software lifecycle
- **Big Data Management Systems:** Design and developing BDMS for software analytics and the Internet of Things
- **Applied Machine Learning:** Application of machine learning models to different domains ranging from software engineering, retail, electricity, food engineering, trading data etc.

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## Education

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- 2007-2012 **PhD in Electrical and Computer Engineering**  
Dept. of Electrical and Computer Engineering, AUTH, Thessaloniki, Greece  
**PhD Dissertation:** "Reinforcement Learning and Evolutionary Computation Mechanisms for Autonomous Agents"  
**Grade:** Unanimous Excellent  
**Advisor:** Prof. Pericles A. Mitkas
- 2004-2006 **Master of Science in Computer Science**  
Dept. of Computer Science, Colorado State University, Fort Collins, CO, USA  
**Master Thesis:** "Robust and Interpretable Statistical Models for Predicting the Intensification of Tropical Cyclones"  
**Grade:** 4.0/4.0  
**Advisor:** Prof. Charles W. Anderson
- 1997-2003 **5-year Diploma in Electrical and Computer Engineering**  
Dept. of Electrical and Computer Engineering, AUTH, Thessaloniki, Greece  
**Diploma Thesis:** "Design and Development of a Multi-Agent System for Managing the Supply Chain"  
**Grade:** 8.53/10.00 (Excellent)  
**Rank:** 2<sup>nd</sup> out of 194  
**Advisor:** Prof. Pericles A. Mitkas

### Other training

- 2017-2018 **Deep Learning Nanodegree, Udacity**
- Feb. 2016 **Instructor Certification, Software Carpentry and Data Carpentry**
- 2011-now **Life-long learning through online courses:** Fractals and Scaling • Big Data Integration and Processing • Big Data Modeling and Management Systems • Introduction to Big Data •

- Learning from Data • How to Build a Startup • Social Network Analysis • An Introduction to Interactive Programming in Python • Introduction to Complexity • Digital Analytics Fundamentals • Introduction to Databases • Neural Networks for Machine Learning • Engineering Long-Lasting SaaS • Machine Learning
- 2002 **Diplôme d'Études de Langue Française I** (DELF I), Level A1
- 2000 **Degree in Recorder**, New Conservatoire of Thessaloniki, Grade: Excellent
- 1998 **Certificate of Proficiency in English**, University of Cambridge, Level C2

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### *Teaching Experience*

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#### **Undergraduate Courses:**

- Software Engineering: **1 semester** (2018-2019) as a solo Instructor under the Presidential Decree 407 and **4 semesters** (2007-2012) as a Teaching Assistant, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece
- Data Structures: **5 semesters** (2007-2012) as a Teaching Assistant, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece
- CS370 Software Systems and Architecture: **2 semesters** (2004-2006) as a Teaching Assistant, Dept. of Computer Science, Colorado State University, Fort Collins, CO, USA
- CS301 Foundations of Computer Science: **2 semesters** (2004-2006) as a Teaching Assistant, Dept. of Computer Science, Colorado State University, Fort Collins, CO, USA

#### **Post-graduate Courses:**

- Big Data Analytics: **1 semester** (2018) as an Adjunct Instructor in the “Advanced Computer and Communication Systems” Postgraduate Programme, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece
- Data Mining: **2 semesters** (2016-2018) as an Adjunct Instructor in the “Medical Research Methodology” Postgraduate Programme, School of Medicine, AUTH, Thessaloniki, Greece
- Databases and Data Mining: **3 semesters** (2015-2017) as an Adjunct Instructor in the “Advanced Computer and Communication Systems” Postgraduate Programme, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece
- Techniques for Software Design and Development: **2 semesters** (2015-2017) as an Adjunct Instructor in the “Advanced Computer and Communication Systems” Postgraduate Programme, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece

#### **Ph.D. Co-advisor:**

- Thomas Karanikiotis, “Deep Learning Representation for Software Artefacts” (2018-now)

#### **Diploma and Master Thesis co-advisor** (2007-2012 as a PhD student, 2013-today as a Research Fellow):

- **39** undergraduate diploma thesis projects
- **6** postgraduate master thesis projects
- Indicative areas include intelligent trading agents, game playing agents, poker playing agents, blockchain, automl, mining software repositories, semantic web, applied machine learning, etc.

#### **Training Activities as an Instructor:**

- Data Science and Statistics with R, Instructor, Golden Gate Pro Coding Academy, Thessaloniki, Greece, 5-6 and 12-13 May 2018.
- Software Carpentry workshop, Instructor, Aristotle University of Thessaloniki, Thessaloniki, Greece, 4 – 5 Oct. 2016.

*Research-related employment*

2012-now     **Research Fellow and Software Architect**

*Intelligent Systems and Software Engineering Labgroup, Information Processing Laboratory, Dept. of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece*

R&D Projects Involved:

- **eeRIS – electric energy Residential Informational System** (National, EPAnEK, 2018-2021). The eeRIS platform will be able to offer detailed information to an electric energy consumer, correlating his/her consumption to the use of specific household appliances.
- **VITAL – Versatile Internet of Things in Agriculture** (National, EPAnEK, 2018-2020). The aim of the project is to create an innovative system that exploits the Internet of Things (IoT) technology.
- **CIA – Continuous Implicit Authentication** (Privately funded, 2018-2019) is a project that aims to do continuous implicit authentication through gestures in mobile devices and kiosks.
- **SEAF – Sustainable Energy Asset Evaluation and Optimisation Framework** (European, H2020). SEAF bridges the gap between contractors and investors in Sustainable Energy Assets (SEA) through the development of a holistic IT Platform.
- **Mobile-Age** (European, H2020). Mobile Age project focuses on open government data, mobile technology, and the provision of public services in relation to Europe’s elderly population.
- **S-CASE – Scaffolding Scalable Software Services** (European, FP7). The goal of S-CASE is to accelerate the software development lifecycle for cloud services by introducing a new agile prototyping paradigm that automates the process of mapping user requirements to concrete software specifications and generates operational code (RESTful services)

Brief Description of Duties:

- Group’s Software Architect
- Technical Lead of the S-CASE consortium
- Research management of the project on Continuous Implicit Authentication on touch devices
- Participation on the research and teaching activities of the lab as those described in the related sections
- Grant proposal writing

2007-2012     **Research Assistant and Developer**

1) *Intelligent Systems and Software Engineering Labgroup, Information Processing Laboratory, Dept. of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece*

2) *Information Technology Institute, Centre for Research and Technology Hellas, Themi, Greece*

R&D Projects Involved:

- **Cassandra - A multivariate platform for assessing the impact of strategic decisions in electrical power systems** (European, FP7-ICT, 2011-2014). Cassandra aims to build a platform for the realistic modeling of the energy market stakeholders, also involving small-scale consumers

Brief Description of Duties:

- Participation in the project Cassandra and on various internal and private projects (telemedicine, machine learning on retail data etc.)
- Technical Lead of the Cassandra consortium
- Research on Trading Agents and participation on the Trading Agent Competition with team Mertacor
- Participation on the research and teaching activities of the lab as those described in the related sections
- Grant proposal writing
- Support the quality assurance activities of the department

*Tech-related employment*

2012-2014 **Full stack developer**

*Delphis SA, Athens, Greece*

Brief Description of Duties:

- Full stack developer on the MEAN stack (MySQL, Express, Angular.js, Node) for an Energy Management System
- R&D on sensor fault diagnosis

2006-2007 **Mandatory Military Service**

*Hellenic Army, Signals Arm*

with commendation

2002-2003 **Intern**

*ALTEC SA, Thessaloniki, Greece*

Brief Description of Duties:

- Java-Oracle developer at ALTEC’s pilot for the EU funded project under FP5 “Agent Academy”
- Production of research papers and deliverables

2001 **Intern**

*Elcoteq, Pecs, Hungary*

Brief Description of Duties:

- Development, testing and documentation of software, which implements communication between Panasonic SMT machines and PC, through the serial communication port.
- Measuring RF circuits of mobile phones

*\*Teaching related employment is described in the table above.*

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***Scientific and Technical Experience***

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- Participation in **5 EU** funded R&D projects ([Agent Academy](#), [Cassandra](#), [S-CASE](#), [SEAF](#), [Mobile-Age](#))
- Participation in **3 nationally** funded R&D projects (eTHMMY, eeRIS, VITAL)
- Participation in **2 privately** funded R&D projects (Analytics on retail data, continuous implicit authentication on touch devices)
- **Reviewer** in **6 international journals** (IEEE Transactions on Neural Networks and Learning Systems, Expert Systems with Applications, Engineering Applications of Artificial Intelligence, Journal of Cleaner Production, Enterprise Information Systems, International Journal of Information Technology and Decision Making), **3 international conferences** (ACML 2017, ACML 2018, AAAI2019) and for **1 publishing house** (Packt).
- Member of the Hellenic Society of Artificial Intelligence ([EETN](#)) and the Technical Chamber of Greece ([TEE](#))
- Open source maintainer of:

- **jssa – JavaScript Static Analyzer:** Five (5) different JS static analysis tools merged into one with CLI support (<https://github.com/cyclopt/jssa>)
- **js-starter-kit** – Opinionated starting kit based on the MERN stack (<https://github.com/cyclopt/js-starter-kit>)
- **npm-miner** – Static code analysis system of the npm registry (<https://github.com/AuthEceSoftEng/npm-miner>)
- **eslint-config-pop** – An eslint configuration with the most popular configurations found in the npm registry (<https://github.com/AuthEceSoftEng/eslint-config-pop>)
- Software Architect in the open source Big Data Management System **Cenote** (<https://github.com/AuthEceSoftEng/cenote>)
- Technical Skills:
  - Web development: MERN & MEAN stacks (MongoDB, Express, AngularJS, React, Node.js), Java RESTful web services, Amazon Web Services, Heroku PaaS, Google App Engine, Firebase, applied web application security, behavior driven development, test driven development, API modeling languages (raml, swagger)
  - Software Development Tools: git, SonarQube, Jenkins CI, Docker, DC/OS
  - Programming Languages: JavaScript, Java, Python, R, C#
  - Databases: SQL language, MySQL, Postgresql, MongoDB, CouchDB, Cassandra, CockroachDB
  - Big Data: Map-Reduce, Hadoop, MongoDB, Spark, Kafka, Storm, Cassandra

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### ***Administrative Experience***

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- **Managing partner** of Cyclopt P.C. (2017-today)
- **Technical Coordinator** of the EU-Funded project S-CASE and Cassandra (Nov. 2013 – Dec. 2016).
- **Software Quality Assurance manager** for the Information Processing Lab, according to ISO 9001:2008 (2015 – today).
- **Main contributor / author** in 11 Grant proposals (both public and private calls) since 2012; two as the Principal Investigator

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### ***Awards and Distinctions***

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- 2018 – **5<sup>th</sup> prize** at the 8<sup>th</sup> innovation and technology competition “NBG Business Seeds” of the National Bank of Greece out of 361 participants
- 2017 – **2<sup>nd</sup> place** at the 10<sup>th</sup> innovation competition “e-nnovation”, research stream category, out of 100 participants organized by the Athens University of Economics & Business
- 2016 – “npm-miner: a mechanism for mining and analyzing information from the software package registry npm”, **1 out of the 13 proposals** distinguished at the competition “Travelling on the Research paths” organized by the General Secretariat of Research and Technology (GSRT)
- 2012 – **1<sup>st</sup> place** at the international Trading Agent Competition, Ad Auctions game with agent Mertacor
- 2011 – **Top 16 teams** out of 106 participating teams of the 4th digital innovation and entrepreneurship student competition “e-nnovation” organized by the Athens University of Economics & Business
- 2011 – **3<sup>rd</sup> place** at the Ms Pac-Man vs. Ghosts competition, Congress on Evolutionary Computation with Diploma Thesis student Giorgos Matzoulas
- 2010 – Mertacor team **invited by the Prime Minister of Greece**, George A. Papandreou
- 2010 – **3<sup>rd</sup> place** at the international Trading Agent Competition, Ad Auctions game with agent Mertacor
- 2009 – **Excellence Scholarship Award** for PhD candidates, Research Committee, AUTH
- 2006 – Awarded a **commendation as an exemplary Private** by the Hellenic Army
- 2005 – **3<sup>rd</sup> place** at the international Trading Agent Competition, Supply Chain Management game with agent Mertacor
- 2003 – **3<sup>rd</sup> place** at the Diploma Thesis Competition at the 1st symposium of undergraduate students of ECE/AUTH

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**Publication Statistics**

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**Citations and h-index**

Source	Documents	Total Citations	h-index
Scopus	21	100	5
Web of Science	13	46	4
<a href="#">Google Scholar</a>	31	208	8

**Journal impact factors**

Journal	2016 Impact Factor (JCR)	April 2018 CiteScore	April 2018 SNIP	April 2018 SJR
Elsevier Expert Systems with Applications	3.928	5.22	2.449	1.271
Elsevier Neurocomputing	3.317	3.74	1.516	1.073
Elsevier Engineering Applications of Artificial Intelligence	2.894	3.75	1.677	0.874
Springer Automated Software Engineering	2.625	2.09	1.530	0.317
IEEE Intelligent Systems	2.374	2.69	1.385	0.588
Taylor & Francis Enterprise Information Systems	1.908	2.87	1.720	0.717

**Conference rankings**

Conference	CORE 2018 Ranking
European Conference on Artificial Intelligence	A
IEEE International Working Conference on Mining Software Repositories	A
IEEE International Conference on e-Business Engineering	B
ACM Symposium on Applied Computing	B
Artificial Intelligence and Applications Conference	C

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**Complete Publication List**

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**PhD Dissertation**

1. [Chatzidimitriou, K. C.](#) (2012). *Reinforcement learning and evolutionary computing mechanisms for autonomous agents* (PhD Dissertation, Aristotle University of Thessaloniki)

**Master Thesis**

2. [Chatzidimitriou, K. C.](#) (2006). *Robust and Interpretable Statistical Models for Predicting the Intensification of Tropical Cyclones* (Master Thesis, Colorado State University).

**Diploma Thesis**

3. [Chatzidimitriou, K. C.](#) (2003). *Design and development of a multi-agent system for the supply chain management* (PhD Dissertation, Aristotle University of Thessaloniki)

**Books**

4. [Chatzidimitriou, K.](#), [Diamantopoulos, T.](#), [Papamichail, M.](#), [Symeonidis, A.](#) (2018). *Practical Machine Learning in R* [Leanpub]. Retrieved from <https://leanpub.com/practical-machine-learning-r>

**Peer-reviewed journals**

5. Symeonidis, A. L., [Chatzidimitriou, K. C.](#), Athanasiadis, I. N., & Mitkas, P. A. (2007). Data mining for agent reasoning: A synergy for training intelligent agents. *Engineering Applications of Artificial Intelligence*, 20(8), 1097-1111.
6. Symeonidis, A. L., [Chatzidimitriou, K. C.](#), Kehagias, D., & Mitkas, P. A. (2007). A multi-agent infrastructure for enhancing ERP system intelligence. *Scalable Computing: Practice and Experience*, 8(1).

7. Chatzidimitriou, K. C., Symeonidis, A. L., Kontogounis, I., & Mitkas, P. A. (2008). Agent Mertacor: A robust design for dealing with uncertainty and variation in SCM environments. *Expert systems with applications*, 35(3), 591-603.
8. Chatzidimitriou, K. C., & Symeonidis, A. L. (2009). Data-mining-enhanced agents in dynamic supply-chain-management environments. *IEEE Intelligent Systems*, 24(3).
9. Chatzidimitriou, K. C., & Mitkas, P. A. (2013). Adaptive reservoir computing through evolution and learning. *Neurocomputing*, 103, 198-209.
10. Siavvas, M., Chatzidimitriou, K. C., & Symeonidis, A. L. (2017). QATCH - An adaptive framework for software product quality assessment. *Expert Systems with Applications*, 86, 350-366.
11. Zolotas, C., Diamantopoulos, T., Chatzidimitriou, K. C., & Symeonidis, A. L. (2017). From requirements to source code: a Model-Driven Engineering approach for RESTful web services. *Automated Software Engineering*, 24(4), 791-838.
12. Zolotas, C., Chatzidimitriou, K. C., & Symeonidis, A. L. (2018). RESTsec: a low-code platform for generating secure by design enterprise services. *Enterprise Information Systems*

#### Peer-reviewed Conference Proceedings

13. Kehagias, D., Symeonidis, A. L., Chatzidimitriou, K. C., & Mitkas, P. A. (2004, March). Information agents cooperating with heterogenous data sources for customer-order management. In *Proceedings of the 2004 ACM symposium on Applied computing* (pp. 52-57). ACM.
14. Symeonidis, A. L., Chatzidimitriou, K. C., Kehagias, D. D., & Mitkas, P. A. (2005). An Intelligent Recommendation Framework for ERP Systems. In *Artificial Intelligence and Applications* (pp. 715-720).
15. Kontogounis, I., Chatzidimitriou, K. C., Symeonidis, A. L., & Mitkas, P. A. (2006, May). A robust agent design for dynamic SCM environments. In *Hellenic Conference on Artificial Intelligence* (pp. 127-136). Springer, Berlin, Heidelberg.
16. Chatzidimitriou, K. C., Anderson, C. W., & DeMaria, M., (2006) Robust and interpretable statistical models for predicting the intensification of tropical cyclones. In *27th Conference on Hurricanes and Tropical Meteorology*
17. Dimou, C., Chatzidimitriou, K. C., Symeonidis, A.L., & Mitkas, P.A. (2008) Creating and Reusing Metric Graphs for Evaluating Agent Performance in the Supply Chain Management domain. In *1st Workshop on Knowledge Reuse 2008 - KREUSE2008, of the 10th International Conference on Software Reuse*.
18. Chatzidimitriou, K. C., Symeonidis, A. L., & Mitkas, P. A. (2008, December). Data Mining-Driven Analysis and Decomposition in Agent Supply Chain Management Networks. In *Proceedings of the 2008 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology-Volume 03* (pp. 558-561). IEEE Computer Society.
19. Chatzidimitriou, K. C., & Mitkas, P. A. (2010, August). A NEAT Way for Evolving Echo State Networks. In *ECAI* (pp. 909-914).
20. Tsapanos, M. T., Chatzidimitriou, K. C., & Mitkas, P. A. (2011, August). A zeroth-level classifier system for real time strategy games. In *Proceedings of the 2011 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology-Volume 02* (pp. 244-247). IEEE Computer Society.
21. Chatzidimitriou K.C., Chrysopoulos A.C., Symeonidis A.L., & Mitkas P.A. (2012) Enhancing Agent Intelligence through Evolving Reservoir Networks for Predictions in Power Stock Markets. In: Cao L., Bazzan A.L.C., Symeonidis A.L., Gorodetsky V.I., Weiss G., Yu P.S. (eds) *Agents and Data Mining Interaction*. ADMI 2011. Lecture Notes in Computer Science, vol 7103. Springer, Berlin, Heidelberg
22. Chatzidimitriou K.C., Partalas I., Mitkas P.A., Vlahavas I. (2012) Transferring Evolved Reservoir Features in Reinforcement Learning Tasks. In: Sanner S., Hutter M. (eds) *Recent Advances in Reinforcement Learning*. EWRL 2011. Lecture Notes in Computer Science, vol 7188. Springer, Berlin, Heidelberg
23. Chatzidimitriou K.C., Stavrogiannis L.C., Symeonidis A.L., Mitkas P.A. (2013) An Adaptive Proportional Value-per-Click Agent for Bidding in Ad Auctions. In: David E., Robu V., Shehory O.,

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- Stein S., Symeonidis A. (eds) Agent-Mediated Electronic Commerce. Designing Trading Strategies and Mechanisms for Electronic Markets. AMEC 2011, TADA 2011. Lecture Notes in Business Information Processing, vol 119. Springer, Berlin, Heidelberg
24. Chatzidimitriou K.C., Symeonidis A.L., Mitkas P.A. (2013) Policy Search through Adaptive Function Approximation for Bidding in TAC SCM. In: David E., Kiekintveld C., Robu V., Shehory O., Stein S. (eds) Agent-Mediated Electronic Commerce. Designing Trading Strategies and Mechanisms for Electronic Markets. AMEC 2012, TADA 2012. Lecture Notes in Business Information Processing, vol 136. Springer, Berlin, Heidelberg
  25. Chatzidimitriou, K. C., Vavliakis, K. N., Symeonidis, A. L., & Mitkas, P. A. (2013, September). Redefining the market power of small-scale electricity consumers through consumer social networks. In *e-Business Engineering (ICEBE), 2013 IEEE 10th International Conference on* (pp. 25-31). IEEE.
  26. Vavliakis, K. N., Chrysopoulos, A. C., Chatzidimitriou, K. C., Symeonidis, A. L., & Mitkas, P. A. (2015, August). CASSANDRA: a simulation-based, decision-support tool for energy market stakeholders. In *SimuTools* (pp. 155-164).
  27. Dimanidis, A., Chatzidimitriou, K. C., & Symeonidis, A. L. (2018) A Natural Language Driven Approach for Automated Web API Development: Gherkin2OAS. In *Companion Proceedings of the The Web Conference 2018*, (pp. 1869–1874).
  28. Chatzidimitriou, K. C., Papamichail, M., Diamantopoulos, T., Tsapanos, M. & Symeonidis, A. L. (2018) npm-miner: An Infrastructure for Measuring the Quality of the npm Registry. In *MSR '18: 15th International Conference on Mining Software Repositories*
  29. Nisioti, E., Chatzidimitriou, K. C., & Symeonidis, A. L. (2018) Predicting hyperparameters from meta-features in binary classification problems. In *International Workshop on Automatic Machine Learning 2018*

#### Other

30. Chatzidimitriou, K. C., Psomopoulos, F. E., & Mitkas, P.A. (2010, April) Grid-enabled parameter initialization for high performance machine learning tasks. In *5<sup>th</sup> EGEE User Forum*.
31. Chatzidimitriou, K.C., Vavliakis, K., Symeonidis, A.L., & Mitkas, P.A. (2016, May) Towards defining the structural properties of efficient consumer social networks on the electricity grid. In *AI4SG SETN Workshop on AI for the Smart Grid*.
32. Papoudakis, G., Chatzidimitriou K. C., & Mitkas, P. A., (2018) Deep Reinforcement Learning for Doom using Unsupervised Auxiliary Tasks. Retrieved from <https://arxiv.org/abs/1807.01960>

#### Datasets

33. Chatzidimitriou, K. C., Papamichail, M. D., Diamantopoulos, T., Tsapanos, M., & Symeonidis, A. L. (2018). npm-miner dataset [Data set]. Zenodo. <http://doi.org/10.5281/zenodo.1165550>