Curriculum Vitae

Nikolaos Tziortziotis

Personal Information

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Nationality	Hellenic (Greek)		

Working Experience

Jan 2019 -   Data Scientist R&D, Jellyfish Group, Marketing and Advertising, France.

Nov 2018 - Dec 2018   Postdoctoral researcher, Computer Science Laboratory (LIR), LaHDAK group, Paris-Sud University, France.

2015-2018   Postdoctoral researcher, Computer Science Laboratory (LIX), Data Science and Mining (DaSciM) group, École Polytechnique, France.

Education

2010-2015   PhD in Computer Science, Department of Computer Science & Engineering, University of Ioannina, Greece. PhD Thesis: *Machine Learning for Intelligent Agents*.

2012-2013   Exchange Doctoral Student, Department of Computer Science, École Polytechnique Fédérale de Lausanne (EPFL), LIA Laboratory, Switzerland.

2008-2010   MSc in Computer Science, Department of Computer Science, University of Ioannina, Greece. MSc Thesis: *Autonomous Mobile Robot Navigation using Reinforcement Learning*.

2002-2007   BSc in Computer Science, Department of Computer Science, University of Ioannina, Greece.

Research Interests

Machine Learning, Reinforcement Learning, Bayesian Learning, Decision Making under Uncertainty, Display Advertising, Influence Maximisation, Graph Mining.

Publications

Journals

J1.   J. Read, N. Tziortziotis and M. Vazirgiannis, *Error-space Representations for Multi-dimensional Data-Streams*, **Pattern Analysis and Applications**, 22(3), 2019.

J2.   M. G. Rossi, B. Shi, N. Tziortziotis, F. D. Malliaros, C. Giatsidis, and M. Vazirgiannis, *MATI: An Efficient Algorithm for Influence Maximization in Social Networks*, in **PLOS One**, 13(11), 2018.

J3.   K. Tziortziotis, N. Tziortziotis, K. Vlachos and K. Blekas, *Motion Planning with Energy Reduction for a Floating Robotic Platform Under Disturbances and Measurement Noise Using Reinforcement Learning*, in **International Journal on Artificial Intelligence Tools**, 27(4), 2018.

J4. C. Giatsidis, F. D. Malliaros, N. Tziortziotis, C. Dhanjal, E. Kiagias, D.M. Thilikos and M. Vazirgiannis, *A k-core Decomposition Framework for Graph Clustering*, in **CoRR**, 2016.

J5. N. Tziortziots, G. Papagiannis and K. Blekas, *A Bayesian Ensemble Regression Framework on the Angry Birds Game*, **IEEE Transactions on Computational Intelligence and AI in Games**, 8(2):104-115, 2016.

J6. N. Tziortziotis, C. Dimitrakakis and K. Blekas, *Cover Tree Bayesian Reinforcement Learning*, **Journal of Machine Learning Research**, (15):2313-2335, 2014.

Magazines

M1. C. Dimitrakakis, G. Li and N. Tziortziotis, *The Reinforcement Learning Competition*, **Artificial Intelligence (AI) Magazine**, (35):61-65, 2014.

Tutorials

T1. B. Cautis, S. Maniu and N. Tziortziotis, *Adaptive Influence Maximization*, in the

- 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2019**), Alaska,USA, August 2019.

- 28th International Joint Conference on Artificial Intelligence (**IJCAI 2019**), Macao, China, August 2019.

- 29th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD 2019**), Würzburg, Germany, September 2019.

Conferences

C1. Y. Qiu, N. Tziortziotis, M. Hue, and M. Vazirgiannis, *Predicting Conversions in display advertising based on URL embeddings*, in the AdKDD workshop in conjuction with the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), (**AdKDD 2020**), San Diego, USA, August 2020.

C2. M. Bahri, A. Bifet, S. Maniu, R. Mello, and N. Tziortziotis, *Compressed k-Nearest Neighbors Algorithm for Data Streams*, in the 24th European Conference on Artificial Intelligence (**ECAI 2020**), Santiago de Compostela, Spain, August 2020.

C3. K. Skianis, F. D. Malliaros, N. Tziortziotis, and M. Vazirgiannis, *Boosting Tricks for Word Mover's Distance*, 29th International Conference on Artificial Neural Networks (**ICANN 2020**), Bratislava, Slovenia, September 2020.

C4. N. Tziortziotis, C. Dimitrakakis, and M. Vazirgiannis, *Randomised Bayesian Least-Squares Policy Iteration*, in the 14th European Workshop on Reinforcement Learning (**EWRL 2018**), Lille, France, October 2018.

C5. L. Kemmer, H. Kleist, D. M. Rochebouët, N. Tziortziotis and J. Read, *Reinforcement learning for supply chain optimization*, in the 14th European Workshop on Reinforcement Learning (**EWRL 2018**), Lille, France, October 2018.

C6. K. Skianis, N. Tziortziotis, and M. Vazirgiannis, *Orthogonal Matching Pursuit for Text Classification*, in the 4th Workshop on Noisy User-generated Text at (**EMNLP 2018**), Brussels, Belgium, November 2018.

C7. G. Salha*, N. Tziortziotis*, and M. Vazirgiannis, *Adaptive Submodular Influence Maximization with Myopic Feedback*, in the 10th IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM 2018**), Barcelona, Spain, August 2018. * These authors contributed equally to this work.

C8. M. G. Rossi, B. Shi, N. Tziortziotis, F. D. Malliaros, C. Giatsidis, and M. Vazirgiannis, *MATI: An Efficient Algorithm for Influence Maximization in Social Networks*, in the 6th International Conference on Complex Networks and Their Applications (**Complex Networks**), Lyon, France, November 2017.

C9. N. Tziortziotis, and C. Dimitrakakis, *Bayesian Inference for Least Squares Temporal Difference Regularization*, in the 27th European Conference on Machine Learning (**ECML 2017**), Skopje, FYROM, September 2017.

C10. K. Tziortziotis, N. Tziortziotis, K. Vlachos and K. Blekas, *Autonomous navigation of an over-actuated marine platform using reinforcement learning*, in the 9th Hellenic Conference on Artificial Intelligence (**SETN 2016**), Thessaloniki, Greece, May 2016. **Best Student Paper Award**.

C11. K. Pandremmenou, N. Tziortziotis, S. Paluri, W. Zhang, K. Blekas, L. P. Kondi and S. Kumar, *Quality Optimization of H.264/AVC Video Transmission over Noisy Environments Using a Sparse Regression Framework*, in Visual Information Processing and Communication VI, Proceedings of SPIE-IS & T Electronic Imaging (**SPIE 2015**), San Francisco, CA, February 2015.

C12. C. Dimitrakakis and N. Tziortziotis, *Usable ABC Reinforcement Learning*, in the Advances in Neural Information Processing Systems 27 (**NIPS 2014**), ABC in Montreal workshop, Montreal, Canada, December 2014.

C13. N. Tziortziotis, G. Papagiannis and K. Blekas, *A Bayesian Ensemble Regression Framework on the Angry Birds Game*, in the 21st European Conference on Artificial Intelligence (**ECAI 2014**), Symposium on Artificial Intelligence in Angry Birds, Prague, Czech Republic, August 2014. **Second (2nd) prize on the the AIBIRDS Competition**.

C14. N. Tziortziotis, K. Tziortziotis and K. Blekas, *Play Ms. Pac-Man using an Advanced Reinforcement Learning Agent*, in the 8th Hellenic Conference on Artificial Intelligence (**SETN 2014**), Ioannina, Greece, May 2014.

C15. C. Dimitrakakis and N. Tziortziotis, *ABC Reinforcement Learning*, in the 30th International Conference on Machine Learning Learning (**ICML 2013**), Atlanta, USA, June 2013.

C16. N. Tziortziotis, C. Dimitrakakis and K. Blekas, *Linear Bayesian Reinforcement Learning*, in the 23rd International Joint Conference on Artificial Intelligence (**IJCAI 2013**), Beijing, China, August 2013.

C17. K. Pandremmenou, N. Tziortziotis, L. P. Kondi and K. Blekas, *Resource Allocation in Visual Sensor Networks Using a Reinforcement Learning Framework*, in the 18th IEEE International Conference on Digital Signal Processing (**DSP 2013**), Santorini, Greece, July 2013.

C18. N. Tziortziotis and K. Blekas, *Model-based Reinforcement learning using online clustering*, in the 24th IEEE International Conference on Tools with Artificial Intelligence (**ICTAI 2012**), Piraeus, Greece, November 2012.

C19. N. Tziortziotis and K. Blekas, *An online kernel-based clustering approach for value function approximation*, in the 7th Hellenic Conference on Artificial Intelligence (**SETN 2012**), Lamia, Greece.

C20. N. Tziortziotis and K. Blekas, *A Bayesian Reinforcement Learning framework using Relevant Vector Machines*, in the 25th AAAI Conference on Artificial Intelligence (**AAAI 2011**), San Francisco, USA, August 2011.

C21. N. Tziortziotis and K. Blekas, *Value Function Approximation through Sparse Bayesian Modeling*, in the 9th European Workshop on Reinforcement Learning (**EWRL-9**), Athens, Greece, September 2011.

Dissertations

D1. N. Tziortziotis, *Machine Learning for Intelligent Agents*, **PhD. Thesis**, Department of Computer Science & Engineering, University of Ioannina, Greece, March 2015. `http://www.cs.uoi.gr/tech_reports/ /publications/PD-2015-4.pdf`

D2. N. Tziortziotis, *Autonomous Mobile Robot Navigation using Reinforcement Learning*, **MSc. Thesis**, Department of Computer Science, University of Ioannina, Greece, September 2010.

Skills

Python, C++, Matlab, Git, Google cloud computing services, Spark, Tensorflow, Keras

PC Member

Conferences: ICLR (2021), NIPS (2020), KDD (2020), IJCAI-PRICAI (2020), AAAI (2020), KDD (2019), ECML-PKDD (2019), AAAI (2019), ECML-PKDD (2018), ICIP (2018), SocInf+MAISoN (2018), BigNet (2018), ECML-PKDD (2017), IJCAI (2017), AAAI (2017), SOMERIS (2016), ICANN (2014), SETN (2014), WRLCOMP (2013)
Journals: Neurocomputing, IEEE Trans. on Cybernetics

External Reviewer

Conferences: ICPR (2018), WWW (2017), WSDM (2017), CIKM (2016), ICANN (2014), SETN (2014), AAAI (2013), EUSIPCO (2013), DSP (2013)
Journals: Neural Computing and Applications

Industrial Projects

2015-18   **AXA**: Machine learning project concerning learning from AXA call center in France. The purpose of this project is the development of an inbound call forecasting system able to predict the number of incoming calls for the AXA call center in France.

2017-18   **Realytics**: Machine learning project for web marketing and advertising. The main objective of this task is the prediction of the influence of a TV-campaign on the website of TV-advertiser.

Scholarships

2012-2013   Erasmus exchange grant, Department of Computer Science, École Polytechnique Fédérale de Lausanne (EPFL), LIA Laboratory, Switzerland.

2009-2014   Fellowship for graduate studies at the Department of Computer Science, University of Ioannina, Greece.

Research Grants

2018   Alliance Joint Research Grant. Re-discovering (Astro) Physics Laws Using Machine Learning. Columbia University École Polytechnique `https://mailchi.mp/columbia/announcing-joint-projects-grantees?e=2b770a9e8d`

2017   NVidia GPU Grant. NVidia Corporation supported my research with the donation of a Titan XPascal GPU.

Competition Awards

2014   Second (2$^{\text{nd}}$) prize on the worldwide AIBIRDS Competition, ECAI 2014. The participated agent is presented in our paper entitled "A Bayesian Ensemble Regression Framework on the Angry Birds Game", IEEE Transactions on Computational Intelligence and AI in Games, 8(2):104-115, 2016.

Travel Grants

2014   Travel grant for participation in the 21$^{\text{st}}$ European Conference on Artificial Intelligence (ECAI).

2013   Travel grant for participation in the 23$^{\text{rd}}$ International Joint Conference on Artificial Intelligence (IJCAI).

2011   Travel grant for participation in the 25$^{\text{th}}$ AAAI Conference on Artificial Intelligence (AAAI).

Teaching Experience

2018	Lecturer (Teaching coordinator), Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

- INF581 - Advanced Topics in Artificial Intelligence (4 hours lectures, and 18 hours Labs)

Teaching Assistant, Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

- INF554 - Machine learning I (18 hours in total - 9 weeks, 2 hours/week).

2017   Teaching Assistant, Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

- INF554 - Machine learning I (18 hours in total - 9 weeks, 2 hours/week).

2016   Teaching Assistant, Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

- M2 Data Science: Methods for Big Data Analytics (18 hours in total - 9 weeks, 2 hours/week).
- INF554 - Machine learning I (18 hours in total - 9 weeks, 2 hours/week).

2015   Teaching Assistant, Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

- INF582 - Data Science, Learning from Data (18 hours in total - 9 weeks, 2 hours/week).

2008-2015   Teaching Assistant, Department of Computer Science, University of Ioannina, Greece. Courses:

- Probability Theory (2010-2015) (12 weeks/year, 2 hours/week).
- Principles of Programming Languages (2008-2010) (12 weeks/year, 4 hours/week).

2010-2011   Instructor, Institute of Vocational Training of Ioannina, Greece. Courses:

- Introduction to Computer Science (2011).
- Operating Systems (2010).

Students supervisioned/mentored

PhD Candidates

2019-   Yang Qiu, *Predicting conversions in online advertising based on url embeddings* (TradeLab Cifre), LIX, École Polytechnique, Paris, France.

2015-2018   Konstantinos Skianis, *Representations, Regularization and Visualization for text and graph data*, LIX, École Polytechnique, Paris, France (main supervisor: Prof. M. Vazirgiannis).

2015-2017   Maria Rossi, *Graph Mining for Influence Maximization in Social Networks*, LIX, École Polytechnique, Paris, France (main supervisor: Prof. M. Vazirgiannis).

MSc Students

2016-2017   Guillaume Salha, *Adaptive Submodular Influence Maximization with Myopic Feedback*, ENS Cachan, Paris, France (co-supervisor: Prof. M. Vazirgiannis).

2016-2017   Guokan Shang, *Approximate Reinforcement Learning with Mixture of Experts*, Paris-Sud, Paris, France (co-supervisor: Prof. M. Vazirgiannis).

2015-2016   Konstantinos Tziortziotis, *Autonomous navigation of an over-actuated marine platform using reinforcement learning techniques*, University of Ioannina, Greece (main supervisor: Prof. K. Blekas).

2014-2015   Georgios Papagiannis, *A Bayesian Ensemble Regression Framework on the Angry Birds Game*, University of Ioannina, Greece (co-supervisor: Prof. K. Blekas).

Competition Organization

2016   Co-organizer of the two AXA 2016 Data Challenge. Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

2015   Co-organizer of the AXA 2015 Data Challenge. Computer Science Laboratory (LIX), École Polytechnique, Paris, France.

2013   Co-organizer of the revived Reinforcement Learning Competition. ICML Workshop on the Reinforcement Learning Competition (**WRLCOMP**), Atlanta, USA, June 2013.

Conference Organization

2014   Organizing committee on the 8th Hellenic Conference on Artificial Intelligence (**SETN**), Ioannina, Greece, May 2014.

2013   Co-organizer of the revived Reinforcement Learning Competition. ICML Workshop on the Reinforcement Learning Competition (**WRLCOMP**), Atlanta, USA, June 2013.

Volunteering

2011   Volunteer in the 21st European Conference on Machine Learning (**ECML**), Athens, Greece, September 2011.

Languages

English   Certificate of Proficiency in English (ECPE), University of Michigan, 2015.

Greek   Mother tongue.

French   Beginner.

Orsay, 28/09/2020

Nikolaos Tziortziotis