

## CURRICULUM VITAE

### Alan J. Lockett

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Postdoctoral Researcher

IDSIA, Galleria 2, 6928 Manno-Lugano, Switzerland

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### EDUCATION

2012 Doctor of Philosophy in Computer Science, University of Texas, Austin.

**Thesis:** *General-Purpose Optimization Through Information Maximization*

**Committee:** Risto Miikkulainen (Chair), Gordan Žitkovič, Pradeep Ravikumar, Joydeep Ghosh, Raymond Mooney

2008 Master of Science in Computer Science, University of Texas, Austin.

2003 Master of Arts in Middle Eastern Studies, University of Texas, Austin.

1998 Bachelor of Arts in Linguistics, University of Texas, Austin.

### ACADEMIC POSITIONS

Since 2013 Postdoctoral Researcher, Dalle Molle Institute of Artificial Intelligence Studies in Lugano, Switzerland.

### GRANTS AND FELLOWSHIPS

2013 – 2015 U.S. National Science Foundation, “Deep Neural Networks for Perception-Action Integration in Robotic Control”, Award No. OISE-1159008, June 2013 to May 2015. \$177,208 to study at IDSIA in Lugano, Switzerland. Award rate: 30%.

### AWARDS AND HONORS

2013 Runner-up Overall Best Paper Award, IEEE Congress on Evolutionary Computation (CEC-2013, Cancun, Mexico) for Lockett, Alan J. “Measure-Theoretic Analysis of Performance in Evolutionary Algorithms.” Runner-up out of 445 papers.

### INVITED TALKS

2010 “Evolutionary Annealing”, Dalle Molle Institute for Artificial Intelligence Studies in Lugano, Switzerland. July 18, 2011.

### MONOGRAPHS

2015 Lockett, A. J. *General-Purpose Optimization Through Information Maximization*. Springer-Verlag. Heidelberg, Germany. *Under contract, draft submitted*. 400 pages.

## SELECTED PUBLICATIONS

- 2014 Lockett, A. J. and Miikkulainen, R. Evolutionary Annealing: Global Optimization in Arbitrary Measure Spaces. *Journal of Global Optimization*, 58:75-108. Springer US.
- 2014 Lockett, A. J. Model-Optimal Optimization by Solving Bellman Equations. In Proceedings of the 2014 Genetic and Evolutionary Computation Conference (GECCO-2014, Vancouver, Canada). ACM Press. 8 pages.
- 2013 Lockett, A. J. and Miikkulainen R. A Measure-Theoretic Analysis of Stochastic Optimization. In Proceedings of the 2013 Workshop on the Foundations of Genetic Algorithms (FOGA-2013, Adelaide, Australia). ACM Press. 8 pages.

*See Attached Publication List for Complete List of Publications.*

## PEER REVIEW ACTIVITY

### Journals

- 2014 Journal of Machine Learning Research (MIT Press); Journal of Machine Learning and Cybernetics (Springer); Transactions on Computational Intelligence and AI in Games (IEEE); Information Sciences (Elsevier); Applied Soft Computing (Elsevier).
- 2013 Transactions on Evolutionary Computation, Special Issue on Theory of Evolutionary Computation (IEEE); Artificial Intelligence (Elsevier); Applied Soft Computing (Elsevier).
- 2012 Information Sciences (Elsevier).
- 2010 Neural Computation (MIT Press); Information Sciences (Elsevier).
- 2009 Transactions on Computational Intelligence and AI in Games (IEEE).

### Conferences

- 2015 Program Committee Member, Workshop on the Foundations of Genetic Algorithms (FOGA-2015)
- 2012 IEEE Congress on Evolutionary Computation (CEC-2012)

## TEACHING EXPERIENCE

- 1999 – 2003 Latin Teacher, Regents' School of Austin, Upper School (Grades 7-12).

## SOFTWARE SYSTEMS

- 2011 – 2014 PyEC: An open-source library of global optimization heuristics. Downloaded 15,797 times, <https://pypi.python.org/pypi/PyEC>.

## LANGUAGES

- English (native), French, Italian, Spanish (some conversational ability)

## ALAN J. LOCKETT – PUBLICATION LIST

### Books

- 2015 Lockett, A. J. *General-Purpose Optimization Through Information Maximization*. Springer-Verlag. Heidelberg, Germany. *Under contract, draft submitted*. 400 pages.

### Journal Articles

- 2015 Lockett, A. J. and Miikkulainen, R. A Probabilistic Re-Formulation of No Free Lunch: Continuous Lunches Are Not Free. *Submitted October 2014*. 30 pages.
- 2015 Lockett, A. J. Model-Optimal Optimization in General-Purpose Optimization Contexts. *Invited Submission, Submitted October 2014*. 29 pages.
- 2014 Lockett, A. J. and Miikkulainen, R. Evolutionary Annealing: Global Optimization in Arbitrary Measure Spaces. *Journal of Global Optimization*, 58:75-108. Springer US.

### Conference Presentations

- 2015 Stollenga, M., Lockett, A. J., and Schmidhuber, J. The Natural Gradient as a Control Signal for a Humanoid Robot. *Submitted to the 2015 International Conference on Robotics and Automation (ICRA-2015)*. 6 pages.
- 2015 Lockett, A. J. Insights from Adversarial Fitness Functions. In Proceedings of the 2015 Workshop on the Foundations of Genetic Algorithms (FOGA-2015, Aberystwyth, Wales). ACM Press. 15 pages.
- 2014 Lockett, A. J. Model-Optimal Optimization by Solving Bellman Equations. In Proceedings of the 2014 Genetic and Evolutionary Computation Conference (GECCO-2014, Vancouver, Canada). ACM Press. 8 pages.
- 2013 Lockett, A. J. Neuroannealing. In Proceedings of the 2013 Genetic and Evolutionary Computation Conference (GECCO-2013, Amsterdam). ACM Press. 8 pages.
- 2013 Lockett, A.J. Measure-Theoretic Analysis of Performance in Evolutionary Algorithms. In Proceedings of the 2013 IEEE Congress on Evolutionary Computation (CEC-2013, Cancun, Mexico). IEEE Press. 8 pages.
- 2013 Lockett, A. J. and Miikkulainen R. A Measure-Theoretic Analysis of Stochastic Optimization. In Proceedings of the 2013 Workshop on the Foundations of Genetic Algorithms (FOGA-2013, Adelaide, Australia). ACM Press. 12 pages.
- 2011 Lockett, A. J. and Miikkulainen, R. Measure-Theoretic Evolutionary Annealing. In Proceedings of the 2011 Congress on Evolutionary Computation (CEC-11, New Orleans, USA). Piscataway, NJ: IEEE. 8 pages.
- 2011 Lockett, A. J. and Miikkulainen, R. Real-Space Evolutionary Annealing. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2011, Dublin,

Ireland). 8 pages.

- 2008 Lockett, A. J. and Miikkulainen, R. Evolving Opponent Models for Poker. In Proceedings of the IEEE Symposium on Computational Intelligence and Games (CIG-08). Piscataway, NJ: IEEE. 8 pages.
- 2007 Lockett, A. J., Chen, C. L., and Miikkulainen, R. Evolving Explicit Opponent Models in Game Playing. In Proceedings of the Genetic and Evolutionary Computation Conference (GECCO- 2007, London, UK). 8 pages.

### **Technical Reports**

- 2009 Lockett, A. J. and Miikkulainen, R. Temporal Convolution Machines for Sequence Learning. Technical Report. University of Texas, UT Tech. Report AI-09-04. 8 pages.