

NAME Joost Huizinga
 ADDRESS 7 Commodore Drive
 Unit A361
 Emeryville, California, 94608
 United States of America
 PHONE +1 (307) 460 1368
 E-MAIL joost.hui@gmail.com
 DATE OF BIRTH 03-08-1986

EDUCATION

PROGRAM	Ph. D. Computer Science	Jan 14 2013 — Aug 10 2018
INSTITUTE	University of Wyoming	Laramie, USA
	Working in the Evolving Artificial Intelligence Laboratory led by Jeff Clune.	
PROGRAM	Master Artificial Intelligence	Sep 01 2010 — Aug 31 2012
INSTITUTE	VU University	Amsterdam, Netherlands
	Specialized in Computational Intelligence and Self-Organization. Optional courses focused on distributed and parallel computing.	
PROGRAM	Bachelor Artificial Intelligence	Sep 01 2005 — Aug 31 2010
INSTITUTE	VU University	Amsterdam, Netherlands
	Graduated two years behind schedule mainly due to the many side activities I was involved in, including my job at OGD and my position as a board member for the study association STORM.	

OCCUPATION

JOB	Research Scientist	Jul 6 2020 — Present
EMPLOYEE	OpenAI	San Francisco, USA
	Research scientist on the multiagent team; a team which aims to create emergent intelligence through agent interactions in diverse environments. My tasks involve implementing multi-agent RL algorithms with python and Pytorch, designing and running experiments, and analyzing the results.	
JOB	Research Scientist	Aug 27 2018 — Jun 1 2020
EMPLOYEE	Uber AI Labs	San Francisco, USA
	Researching novel RL algorithms for solving hard exploration problems. Tasks involve designing and implementing algorithms (mostly with Tensorflow in Python), analyzing results and writing scientific papers.	
JOB	Research Intern	Jun 04 2018 — Aug 24 2018
EMPLOYEE	Uber AI Labs	San Francisco, USA
	Same as my job as Research Scientist above.	

JOB	Temporary worker	Jan 01 2006 — Feb 28 2009
EMPLOYEE	OGD	Amsterdam, Netherlands
	Working for OGD (Operator Group Delft) I have been a temporary worker for various different companies including: Nissan Moter Parts (Internal Helpdesk Employer), Vrije Universiteit (Internal Helpdesk Employer), XS4ALL (External Helpdesk Employer), Bookings.com (Internal Helpdesk Employer), Trimbos Institute Utrecht (VBA programmer), Ter Gooi Hospital (Internal Helpdesk Employer) and FGH Bank NV (VBA programmer).	

GRANTS AND AWARDS

AWARD	Ellbogen Next Generation Program	Sept 1 2017
	Grant awarded to the Laramie Robotics Club, obtained as Treasurer, of \$5,000.	
AWARD	Summer Doctoral Augmentation	May 12 2017
	Received the Summer Doctoral Augmentation scholarship and tuition award of \$2,200.	
GRANT	Oak Ridge Directors Discretion Allocation	May 2 2016
	Allocation of 120,000 Titan core hours (estimated value: \$4,800).	
AWARD	Best video, AAAI Video Competition	Jul 31 2014
	Awarded to my video “Evolving Neural Networks That Are Both Modular and Regular” (youtu.be/FUqYNRZTl3U).	
GRANT	GECCO 2014 Student travel grant	May 1 2014
	Awarded \$300 for travel to the GECCO 2014 conference.	

PUBLICATIONS

TITLE	Scaling MAP-Elites to deep neuroevolution
CITE	Colas C, Madhavan V, Huizinga J, Clune J (2020) Scaling MAP-Elites to deep neuroevolution. Proceedings of the Genetic and Evolutionary Computation Conference. 67-75.
TITLE	First return then explore
CITE	Ecoffet A, Huizinga J, Lehman J, Stanley KO and Clune J (2020) First return then explore. arXiv preprint arXiv:2004.12919.
TITLE	Exploration Based Language Learning for Text-Based Games
CITE	Madotto A, Namazifar M, Huizinga J, Molino P, Ecoffet A, Zheng H, Papangelis A, Yu D, Khatri C and Tur G (2020) Exploration Based Language Learning for Text-Based Games. arXiv preprint arXiv:2001.08868.
TITLE	Go-explore: a new approach for hard-exploration problems
CITE	Ecoffet A, Huizinga J, Lehman J, Stanley KO and Clune J (2019) Go-Explore: a New Approach for Hard-Exploration Problems. arXiv preprint arXiv:1901.10995.
TITLE	Guiding Neuroevolution with Structural Objectives
CITE	Ellefsen KO, Huizinga J, and Torresen J (2019) Guiding Neuroevolution with Structural Objectives. Evolutionary computation, pp.1-25.

TITLE	Evolving Multimodal Robot Behavior via Many Stepping Stones with the Combinatorial Multi-Objective Evolutionary Algorithm
CITE	Huizinga J, Clune J (2018) Evolving Multimodal Robot Behavior via Many Stepping Stones with the Combinatorial Multi-Objective Evolutionary Algorithm. arXiv:1807.03392.
TITLE	The Emergence of Canalization and Evolvability in an Open-Ended, Interactive Evolutionary System.
CITE	Huizinga J, Stanley K, Clune J (2018) The Emergence of Canalization and Evolvability in an Open-Ended, Interactive Evolutionary System. Artificial life, 24(3), pp.157-181.
TITLE	The evolutionary origins of hierarchy
CITE	Mengistu H, Huizinga J, Mouret JB, Clune J (2016) The evolutionary origins of hierarchy. PLoS Computational Biology. 12(6).
TITLE	Does Aligning Phenotypic and Genotypic Modularity Improve the Evolution of Neural Networks?
CITE	Huizinga J, Mouret JB, Clune J (2016) Does Aligning Phenotypic and Genotypic Modularity Improve the Evolution of Neural Networks? Proceedings of the Genetic and Evolutionary Computation Conference. 125-132.
TITLE	Evolving Neural Networks That Are Both Modular and Regular: HyperNeat Plus the Connection Cost Technique
CITE	Huizinga J, Mouret JB, Clune J (2014) Evolving Neural Networks That Are Both Modular and Regular: HyperNeat Plus the Connection Cost Technique. Proceedings of the Genetic and Evolutionary Computation Conference. 697-704.

TALKS

FORUM	PhD Defense	May 9 2018
TITLE	Evolving Structurally Organized Neural Networks	
	Presentation of my dissertation research regarding evolving structural organization in artificial neural networks.	
FORUM	CAM Seminar	Mar 23 2018
TITLE	Evolving Structurally Organized Neural Networks	
	Presentation of my dissertation research regarding evolving structural organization in artificial neural networks.	
FORUM	GECCO conference	July 22 2016
TITLE	Does Aligning Phenotypic and Genotypic Modularity Improve the Evolution of Neural Networks?	
	Presentation of my conference paper regarding aligning genotypic and phenotypic modularity.	
FORUM	GECCO conference	July 16 2014
TITLE	Evolving Neural Networks that are Both Modular and Regular	
	Presentation of my conference paper on evolving neural networks that are both modular and regular.	

FORUM	Computer Science Research Seminar	Nov 25 2013
TITLE	Evolving Neural Networks that are Both Modular and Regular	
	Talk about my early research in evolving neural networks that are both modular and regular.	

TECHNICAL SKILLS

SKILL	Programming languages (primary)
	C++, python.
SKILL	Programming languages (other)
	Java, C, VBA, prolog, jess, bash script, Matlab script, R script, O-caml, C#.
SKILL	Artificial Intelligence Libraries
	The primary artificial intelligence libraries and frameworks that I have worked with are: Sferes v2, Tensorflow, and Pytorch.
SKILL	Operating Systems
	Windows XP, Linux (Ubuntu), Mac OS
SKILL	Artificial Intelligence Techniques
	Deep reinforcement learning, Evolutionary computing, Neural networks, Deep learning, Architecture search.

SERVICE

SUBJECT	Reviewer
	<ul style="list-style-type: none"> • Program Committee ALIFE track at GECCO 2013 • Transactions on Computational Intelligence and AI in Games 2014 • Program Committee EvoROBOT 2015 • Program Committee GDS track at GECCO 2015 • Reviewer Artificial Life Journal 2015 • Program Committee Complex Systems track at GECCO 2016 • Program Committee EvoROBOT 2016 • Program Committee IEEE CEC 2016 • Program Committee AAAI Video Competition 2016 • Program Committee AAAI Video Competition 2017 • Program Committee IEEE CEC 2017 • Program Committee GECCO 2017 • Program Committee EvoROBOT 2017 • Program Committee EvoROBOT 2018 • Program Committee IEEE CEC 2018 • Program Committee GECCO 2018 • Reviewer for PLOS Computational Biology 2018 • Program Committee EvoROBOT 2019 • Program Committee IEEE CEC 2019 • Program Committee GECCO 2019 • Reviewer for Autonomous Robots (AURO) 2019 • Program Committee GECCO 2020

ADDITIONAL INFORMATION

SUBJECT	Robotics Contest	Jun 21 2017
	Been a judge at the 4-H Showcase Showdown Robotics Contest at the University of Wyoming.	
SUBJECT	COINMAC Collaboration	Apr 2017
	Helped writing the proposal for and participated in the Collaboration on Intelligent Machines (COINMAC) with the University of Oslo and other partners. The proposal was awarded a \$546,000 grant.	
SUBJECT	Advertising Campaign	Oct 25 2016
	Featured in a video called “Wyoming’s Greatest Resource - No.5 - Jeff Clune” (youtu.be/YCXFC9oOfM0).	
SUBJECT	Member of the COSC Graduate Student Social Committee	
	Dec 3 2014 — Aug 10 2018 Member of the COSC Graduate Student Social Committee involved in organizing social events for the graduate students in the computer science program.	
SUBJECT	Vice President Laramie Robotics Club	Sept 31 2017 — Aug 10 2018
	Vice President of the Laramie Robotics Club which aims to have fun with robots while teaching essential programming skills to middle and high-school students.	
SUBJECT	Treasurer Laramie Robotics Club	Sept 24 2014 — Aug 31 2017
	Treasurer of the Laramie Robotics Club which aims to have fun with robots while teaching essential programming skills to middle and high-school students.	
SUBJECT	Advertising Campaign	Oct 29 2013
	Been part of a University of Wyoming advertising campaign called “Can one university make an impact?”.	
SUBJECT	Board member STORM	Nov 19 2007 — Oct 13 2008
	Board member of the study association STORM for Math and Computer Science at the VU University Amsterdam. My responsibilities included education assessment and book sales.	
SUBJECT	Personal information	
	I am a research scientist at OpenAI with a passion for studying artificial intelligence. Besides that, I have also participated in programming and hacking competitions, been a board member of the local study association, and become a treasurer for the Laramie Robotics Club. Hobbies include scouting, gaming (board games as well as video games), programming, climbing, and snowboarding.	

REFERENCES

NAME	Evert Haasdijk	
ROLE	Master’s project adviser	
CONTACT	evert.haasdijk@gmail.com	+31 (0)20 59 87668
	Employee at Deloitte and former assistant professor at the VU University in Amsterdam.	

NAME	Jeff Clune		
ROLE	Ph. D. Adviser and Manager		
CONTACT	jclune@gmail.com	+1 (517) 214 1060	
	Senior Research Scientist at OpenAI.		
NAME	Jean-Baptiste Mouret		
ROLE	Coauthor		
CONTACT	jean-baptiste.mouret@inria.fr	+33 (0) 1 44 27 51 06	
	Senior Researcher at Inria in Nancy.		
NAME	Ken Stanley		
ROLE	Coauthor and Manager		
CONTACT	kstanley@cs.ucf.edu	+1 (407) 473 0072	
	Professor at the University of Central Florida and Research Scientist at OpenAI.		