

Lecture Notes in Artificial Intelligence

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Artificial General Intelligence

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Preface

This volume contains the papers presented at the 14th Conference on Artificial General Intelligence (AGI 2021) held during October 15–18, 2021, both physically in Palo Alto, California, and virtually via SingularityNET’s YouTube channel. This year’s conference included three workshops (Scaling Up Neuro-Symbolic and Integrative AGI Architectures; NARS Tutorial and Workshop; and Interpretable Language Processing), a day of general audience sessions with AGI researchers and leaders held at the Computer History Museum (CHM) in Mountain View, California, in-person and online contributed papers and talks, and 10 keynotes from 10 AGI luminaries.

Following the success of the 13th AGI conference, originally planned for St. Petersburg, Russia, but ultimately held strictly online due to the ongoing effects of the COVID-19 pandemic, the hybrid format of AGI 2021 proved to be logistically challenging but ultimately a resounding success. As one long-time contributor put it, “I think it was the best (AGI conference) so far”. This year’s conference also featured presenters and participants from a broader set of backgrounds and with more diverse perspectives than ever before.

Researchers from at least 16 countries attended AGI 2021, either in-person or online. Many deep, stimulating, and diverse papers and talks were given over the course of the conference. Outdoor participant dinners followed the first two days of the conference with wide-ranging and scintillating discussion spilling over well into each night.

This volume contains the contributed talks presented at AGI 2021. There were 50 submissions. Each submission was reviewed by at least two (on average 2.57) Program Committee members. The committee decided to accept 36 long papers (72% acceptance rate) for oral presentation, seven of which were presented in person with the remaining via Zoom.

Once again the conference covered an astounding array of topics, from foundations of AGI, through AGI approaches, and AGI ethics to the roles of systems biology, goal generation, and learning systems, and so much more. The breadth and depth of ideas disseminated, discussed, and argued was extraordinary.

Speakers and panelists for the general audience day at CHM included Janet Adams from SingularityNET, Amara Angelica from SingularityNET and KurzweilAI, Joscha Bach from Intel Labs, James Boyd from SingularityNET and Wolfram Research, Nichol Bradford from the Willow Group and Transformative Technology, Ben Goertzel and Matt Iklé from the AGI Society and SingularityNET, Randal Koene from the Carbon Copies Foundation, Julia Mossbridge from the California Institute of Integral Studies and the Institute of Noetic Sciences, and Josef Urban from the Czech Institute of Informatics, Robotics and Cybernetics.

Ten additional keynote speeches were presented by researchers from both academia and industry. This year’s speakers and topics were as follows:

- Francois Chollet— “The Missing Piece in the Quest for Greater Generality in AI”
- Yoshua Bengio— “Conscious Processing and Systematic Generalization with System 2 Deep Learning”
- Tomas Mikolov— “AGI: Why and how?”
- Jonathan Warrell— “Probabilistic Dependent Types and Semantics in AGI: Formal and Philosophical Perspectives”
- David Hanson— “Artistic Social Robotics as a Path to Human-AI Co-Evolution and Understanding”
- Nell Watson— “Machines for Moral Enlightenment”
- Gary Marcus— “Towards a Proper Foundation for Artificial Intelligence”
- Geordie Rose— “Robot Brains”
- Paul Rosenbloom— “Lumping and Splitting: Understanding Cognition via the Common Model and Dichotomic Maps”
- Josef Urban— “Towards the Dream of Self-Improving Universal Reasoning AI”

We thank all the Program Committee members for their dedicated service to the review process. We thank all of our contributors, participants, and tutorial, workshop and panel session organizers, without whom the conference would not exist.

Finally, we thank our sponsors: the Artificial General Intelligence Society, Springer Nature, the SingularityNET Foundation, TrueAGI, and the OpenCog Foundation.

November 2021

Ben Goertzel
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Alexey Potapov

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Contents

Reward-Punishment Symmetric Universal Intelligence	1
<i>Samuel Allen Alexander and Marcus Hutter</i>	
AGI Brain II: The Upgraded Version with Increased Versatility Index	11
<i>Mohammadreza Alidoust</i>	
Elements of Task Theory	19
<i>Matteo Belenchia, Kristinn R. Thórisson, Leonard M. Eberding, and Arash Sheikhlari</i>	
Symbol Emergence and the Solutions to Any Task	30
<i>Michael Timothy Bennett</i>	
Compression, The Fermi Paradox and Artificial Super-Intelligence	41
<i>Michael Timothy Bennett</i>	
The Artificial Scientist: Logician, Emergentist, and Universalist Approaches to Artificial General Intelligence	45
<i>Michael Timothy Bennett and Yoshihiro Maruyama</i>	
Mesarovician Abstract Learning Systems	55
<i>Tyler Cody</i>	
About the Intricacy of Tasks	65
<i>Leonard M. Eberding, Matteo Belenchia, Arash Sheikhlari, and Kristinn R. Thórisson</i>	
Experiments on the Generalization of Machine Learning Algorithms	75
<i>Arthur Franz</i>	
Parsing Using a Grammar of Word Association Vectors	86
<i>Robert John Freeman</i>	
Goal Generation and Management in NARS	96
<i>Christian Hahn, Boyang Xu, and Pei Wang</i>	
Neuro-Symbolic Architecture for Experiential Learning in Discrete and Functional Environments	106
<i>Anton Kolonin</i>	

Navigating Conceptual Space; A New Take on AGI	116
<i>Per Roald Leikanger</i>	
Categorical Artificial Intelligence: The Integration of Symbolic and Statistical AI for Verifiable, Ethical, and Trustworthy AI	127
<i>Yoshihiro Maruyama</i>	
Moral Philosophy of Artificial General Intelligence: Agency and Responsibility	139
<i>Yoshihiro Maruyama</i>	
The Piagetian Modeler	151
<i>Michael S. P. Miller</i>	
Epistolution: How a Systems View of Biology May Explain General Intelligence	163
<i>C. S. Munford</i>	
Measures of Intelligence, Perception and Intelligent Agents	174
<i>Eray Özkural</i>	
Univalent Foundations of AGI are (not) All You Need	184
<i>Alexey Potapov and Vitaly Bogdanov</i>	
Biological Intelligence Considered in Terms of Physical Structures and Phenomena	196
<i>Saty Raghavachary</i>	
Adaptive Multi-strategy Market Making Agent	204
<i>Ali Raheman, Anton Kolonin, and Ikram Ansari</i>	
Unsupervised Context-Driven Question Answering Based on Link Grammar	210
<i>Vignav Ramesh and Anton Kolonin</i>	
A Virtual Actor Behavior Model Based on Emotional Biologically Inspired Cognitive Architecture	221
<i>Alexei V. Samsonovich</i>	
Causal Generalization in Autonomous Learning Controllers	228
<i>Arash Sheikhlari, Leonard M. Eberding, and Kristinn R. Thórisson</i>	
AI Future: From Internal Vectors to Simple Objects States Subspaces Maps	239
<i>Vladimir Smolin</i>	

A Thousand Brains and a Million Theories	250
<i>Grace Solomonoff</i>	
The Role of Bio-Inspired Modularity in General Learning	261
<i>Rachel A. StClair, William Edward Hahn, and Elan Barenholtz</i>	
The Ecosystem Path to AGI	269
<i>Claes Strannegård, Niklas Engsner, Pietro Ferrari, Hans Glimmerfors, Marcus Hilding Södergren, Tobias Karlsson, Birger Kleve, and Victor Skoglund</i>	
On Comparative Analysis of Rule-Based Cognitive Architectures	279
<i>Yury Kolonin and Evgenii Vityaev</i>	
20NAR1 - An Alternative NARS Implementation Design	283
<i>Robert Wünsche</i>	
The Gap Between Intelligence and Mind	292
<i>Bowen Xu, Xinyi Zhan, and Quansheng Ren</i>	
Neural String Diagrams: A Universal Modelling Language for Categorical Deep Learning	306
<i>Tom Xu and Yoshihiro Maruyama</i>	
AGI Control Theory	316
<i>Roman V. Yampolskiy</i>	
AGI via Combining Logic with Deep Learning	327
<i>King-Yin Yan</i>	
Case-Based Task Generalization in Model-Based Reinforcement Learning	344
<i>Artem Zholus and Aleksandr I. Panov</i>	
PySigma: Towards Enhanced Grand Unification for the Sigma Cognitive Architecture	355
<i>Jincheng Zhou and Volkan Ustun</i>	
Author Index	367