

## RAIR Lab Publication List

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### Forthcoming

- [1] Selmer Bringsjord, Naveen Sundar Govindarajulu, and Michael Giancola. “Logic-Based Modeling of of Cognition”. In: *The Cambridge Handbook of Computational Cognitive Sciences*. Ed. by Ron Sun. Preprint available at [http://kryten.mm.rpi.edu/SBringsjord\\_etal\\_L-BMC\\_121521.pdf](http://kryten.mm.rpi.edu/SBringsjord_etal_L-BMC_121521.pdf). Cambridge, UK: Cambridge University Press, Forthcoming (April 2023).

### 2022

- [1] Michael Giancola and Selmer Bringsjord. “Toward Generating Natural-Language Explanations of Modal Logic Proofs”. In: *Proceedings of the Fifteenth International Conference on Artificial General Intelligence (AGI-22)*. Ed. by Ben Goertzel, Matt Iklé, Alexey Potapov, and Denis Ponomaryov. Cham: Springer International Publishing, Aug. 2022.
- [2] Selmer Bringsjord, Naveen Sundar Govindarajulu, John Slowik, James Oswald, Michael Giancola, John Angel, Shreya Banerjee, and Aidan Flaherty. “PERI.2 Goes to PreSchool and Beyond, in Search of AGI”. In: *Proceedings of the Fifteenth International Conference on Artificial General Intelligence (AGI-22)*. Ed. by Ben Goertzel, Matt Iklé, Alexey Potapov, and Denis Ponomaryov. Preprint available at <http://kryten.mm.rpi.edu/PERI2GoesToPreSchoolAGI2022.pdf>. Cham: Springer International Publishing, Aug. 2022.
- [3] James Oswald. “Market Prediction as a Task for AGI Agents”. In: *Proceedings of the Fifteenth International Conference on Artificial General Intelligence (AGI-22)*. Ed. by Ben Goertzel, Matt Iklé, Alexey Potapov, and Denis Ponomaryov. Cham: Springer International Publishing, Aug. 2022.
- [4] Michael Giancola, Selmer Bringsjord, Naveen Sundar Govindarajulu, and Carlos Varela. “Making Maximally Ethical Decisions via Cognitive Likelihood and Formal Planning”. In: *Towards Trustworthy Artificial Intelligent Systems*. Ed. by Maria Isabel Aldinhas Ferreira and Mohammad Osman Tokhi. Preprint available at [http://kryten.mm.rpi.edu/MG\\_SB\\_NS\\_GV\\_Hudson\\_Chapter.pdf](http://kryten.mm.rpi.edu/MG_SB_NS_GV_Hudson_Chapter.pdf). Cham: Springer International Publishing, 2022, pp. 127–142. ISBN: 978-3-031-09823-9. DOI: [10.1007/978-3-031-09823-9\\_10](https://doi.org/10.1007/978-3-031-09823-9_10). URL: [https://doi.org/10.1007/978-3-031-09823-9\\_10](https://doi.org/10.1007/978-3-031-09823-9_10).
- [5] Selmer Bringsjord, James Hendler, Naveen Sundar Govindarajulu, Rikhiya Ghosh, and Michael Giancola. “The (Uncomputable!) Meaning of Ethically Charged Natural Language, for Robots, and Us, From Hypergraphical Inferential Semantics”. In: *Towards Trustworthy Artificial Intelligent Systems*. Ed. by Maria Isabel Aldinhas Ferreira and Mohammad Osman Tokhi. Preprint available at [http://kryten.mm.rpi.edu/MG\\_SB\\_NS\\_GV\\_Hudson\\_Chapter.pdf](http://kryten.mm.rpi.edu/MG_SB_NS_GV_Hudson_Chapter.pdf). Cham: Springer International Publishing, 2022, pp. 143–167. ISBN: 978-3-031-09823-9. DOI: [10.1007/978-3-031-09823-9\\_11](https://doi.org/10.1007/978-3-031-09823-9_11). URL: [https://doi.org/10.1007/978-3-031-09823-9\\_11](https://doi.org/10.1007/978-3-031-09823-9_11).
- [6] Michael Giancola, Selmer Bringsjord, and Naveen Sundar Govindarajulu. “Novel Intensional Defeasible Reasoning for AI: Is it Cognitively Adequate?” In: *Proceedings of the IJCAI Workshop on “Cognitive Aspects of Knowledge Representation” (CAKR 2022)*. Available at <https://cakr22.krportal.org/1882.pdf>. CEUR-WS, July 2022.

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- [7] Brandon Rozek, Michael Giancola, Selmer Bringsjord, and Naveen Sundar Govindarajulu. “A Framework for Testimony-Infused Automated Adjudicative Dynamic Multi-Agent Reasoning in Ethically Charged Scenarios”. In: *Proceedings of the Seventh International Conference on Robot Ethics and Standards (ICRES 2022)*. Ed. by S. Byun, M.O. Tokhi, M.I.A. Ferreira, N.S. Govindarajulu, M.F. Silva, and K.M. Goher. Available at <http://kryten.mm.rpi.edu/KabulCaseAdjudicatedICRES2022.pdf>. London, UK: CLAWAR, July 2022, pp. 47–66.
- [8] Shreya Banerjee, Selmer Bringsjord, Michael Giancola, and Naveen Sundar Govindarajulu. “Qualitative Mechanical Problem-Solving by Artificial Agents: Further Progress, Under Psychometric AI”. In: *The International FLAIRS Conference Proceedings 35* (May 2022). (Winner of the *Best Poster Award*). DOI: [10.32473/flairs.v35i.130630](https://doi.org/10.32473/flairs.v35i.130630).

## 2021

- [1] Selmer Bringsjord, Naveen Sundar Govindarajulu, and Michael Giancola. “Automated Argument Adjudication to Solve Ethical Problems in Multi-Agent Environments”. In: *Paladyn, Journal of Behavioral Robotics*. Vol. 12. 1. Available at <https://doi.org/10.1515/pjbr-2021-0009>. Berlin, Boston: De Gruyter, 2021, pp. 310–335. DOI: [10.1515/pjbr-2021-0009](https://doi.org/10.1515/pjbr-2021-0009).
- [2] Selmer Bringsjord, John Angel, Naveen Sundar Govindarajulu, and Michael Giancola. “Artificial Agents to Help Address the U.S. K–12 Math Gap Between Economically Disadvantaged vs. Advantaged Youth”. In: *Artificial Intelligence for K–12 Education, Part of the AAAI Spring Symposium Series*. Available at [http://kryten.mm.rpi.edu/TIPPAE\\_CommonCoreMathAgent031721.pdf](http://kryten.mm.rpi.edu/TIPPAE_CommonCoreMathAgent031721.pdf). CEUR-WS, 2021.

## 2020

- [1] Selmer Bringsjord and G Naveen Sundar. “The Theory of Cognitive Consciousness, and  $\Lambda$  (Lambda)”. In: *Journal of Artificial Intelligence and Consciousness* 7.2 (2020). Available at [http://kryten.mm.rpi.edu/sb\\_nsg\\_lambda\\_jaic\\_april\\_6\\_2020\\_3\\_42\\_pm\\_NY.pdf](http://kryten.mm.rpi.edu/sb_nsg_lambda_jaic_april_6_2020_3_42_pm_NY.pdf), pp. 155–181. DOI: [10.1142/S2705078520500095](https://doi.org/10.1142/S2705078520500095).
- [2] Michael Giancola, Selmer Bringsjord, Naveen Sundar Govindarajulu, and Carlos Varela. “Ethical Reasoning for Autonomous Agents Under Uncertainty”. In: *Smart Living and Quality Health with Robots, Proceedings of ICRES 2020*. Ed. by M.O. Tokhi, M.I.A. Ferreira, N.S. Govindarajulu, M.F. Silva, E.E. Kadar, J. Wang, and A.P. Kaur. Available at [http://kryten.mm.rpi.edu/MG\\_SB\\_NSQ\\_CV\\_LogicizationMiracleOnHudson.pdf](http://kryten.mm.rpi.edu/MG_SB_NSQ_CV_LogicizationMiracleOnHudson.pdf). The ShadowAdjudicator system can be obtained here: <https://github.com/RAIRLab/ShadowAdjudicator>. London, UK: CLAWAR, Sept. 2020, pp. 26–41.
- [3] Selmer Bringsjord, James Hendler, Naveen Sundar Govindarajulu, and Rikhiya Ghosh. “What is the Meaning of Culture-Bound Ethical Norms for Robots? The Answer from Hypergraphical Inferential Semantics”. In: *Smart Living and Quality Health with Robots, Proceedings of ICRES 2020*. Ed. by M.O. Tokhi, M.I.A. Ferreira, N.S. Govindarajulu, M.F. Silva, E.E. Kadar, J. Wang, and A.P. Kaur. Available at [http://kryten.mm.rpi.edu/SBringsjordetal\\_HouseholdRobotsHIS.pdf](http://kryten.mm.rpi.edu/SBringsjordetal_HouseholdRobotsHIS.pdf). London, UK: CLAWAR, Sept. 2020, pp. 61–73.

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- [4] Selmer Bringsjord, Michael Giancola, and Naveen Sundar Govindarajulu. “Culturally Aware Social Robots That Carry Humans Inside Them, Protected by Defeasible Argumentation Systems”. In: *Culturally Sustainable Social Robotics (Proceedings of Robophilosophy 2020)*. Ed. by Marco Nørskov, Johanna Seibt, and Oliver Santiago Quick. Vol. 335. Frontiers in Artificial Intelligence and Applications. Preprint available at [https://mjgiancola.github.io/archive/2020/SB\\_MG\\_NSJ\\_Culturally\\_Aware\\_Social\\_Robots.pdf](https://mjgiancola.github.io/archive/2020/SB_MG_NSJ_Culturally_Aware_Social_Robots.pdf). IOS Press, 2020, pp. 440–456. DOI: [10.3233/FAIA200941](https://doi.org/10.3233/FAIA200941).
- [5] Michael Giancola, Selmer Bringsjord, Naveen Sundar Govindarajulu, and John Licato. “Adjudication of Symbolic & Connectionist Arguments in Autonomous Driving AI”. In: *Proceedings of the Sixth Global Conference on Artificial Intelligence (GCAI 2020)*. Ed. by Gregoire Danoy, Jun Pang, and Geoff Sutcliffe. Vol. 72. EPIc Series in Computing. EasyChair, 2020, pp. 28–33. DOI: [10.29007/k647](https://doi.org/10.29007/k647). URL: <https://easychair.org/publications/paper/Vt14>.
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## 2019

- [1] Selmer Bringsjord. “Computer Science as Immaterial Formal Logic”. In: *Philosophy & Technology* (2019). Available at <http://kryten.mm.rpi.edu/CompSciAsImmaterialFormalLogicPreprint.pdf>, pp. 1–9. DOI: [10.1007/s13347-019-00366-7](https://doi.org/10.1007/s13347-019-00366-7).
- [2] Naveen Sundar Govindarajulu, Selmer Bringsjord, Rikhiya Ghosh, and Vasanth Sarathy. “Toward the Engineering of Virtuous Machines”. In: *Proceedings of the 2019 AAAI/ACM Conference on AI, Ethics, and Society (AIES 2019)*. Available at [http://kryten.mm.rpi.edu/NSG\\_SBJetal\\_VirtuousMachines012219.pdf](http://kryten.mm.rpi.edu/NSG_SBJetal_VirtuousMachines012219.pdf). ACM, 2019, pp. 29–35.
- [3] Naveen Sundar Govindarajulu, Selmer Bringsjord, and Matthew Peveler. “On Quantified Modal Theorem Proving for Modeling Ethics”. In: *Proceedings of the Second International Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements (ARCADE 2019)*. Ed. by Martin Suda and Sarah Winkler. Vol. 311. Electronic Proceedings in Theoretical Computer Science. Available at <http://eptcs.web.cse.unsw.edu.au/paper.cgi?ARCADE2019.7.pdf>. 2019, pp. 43–49. DOI: [10.4204/EPTCS.311.7](https://doi.org/10.4204/EPTCS.311.7).
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## 2018

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- [2] Selmer Bringsjord. "Logician Remarks on Rapaport on Philosophy of Computer Science+". In: *APA Newsletter on Philosophy and Computers* 18.1 (2018). Ed. by Piotr Boltuc. Available at <http://kryten.mm.rpi.edu/SBonBR.pdf>, pp. 28–31.
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