



Citations of the General Algorithmic Search (GAS) Algorithm

The table below summarizes all known works that cite or reference the GAS algorithm (from Chapter 19 of *Recent Trends in Chaotic, Nonlinear and Complex Dynamics* and its arXiv preprint). Each entry lists the work's title, authors, year, publication venue, and how it incorporates or cites GAS.

Citing Work (Title)	Authors	Year	Publication (Venue)	How it Cites/Uses GAS
<i>Fractal AI: A fragile theory of intelligence</i> ¹	Sergio Hernández Cerezo; Guillem Duran Ballester	2018	arXiv preprint (arXiv: 1803.05049)	Develops a theoretical framework (Fractal AI) for intelligence and references GAS as an application of this theory to general optimization ² . GAS is cited as prior work by the authors, demonstrating a metaheuristic for global optimization that informed the development of the Fractal AI approach ³ .
<i>Solving Atari Games Using Fractals and Entropy</i> ⁴	Sergio Hernández Cerezo; Guillem Duran Ballester; Spiros Baxevanakis	2018	arXiv preprint (arXiv: 1807.01081)	Introduces <i>Fractal Monte Carlo</i> , an MCTS-based algorithm for game playing derived from thermodynamic principles. The authors cite GAS as earlier work on a global optimization metaheuristic ³ , using it in the literature review to highlight their previous development of a physics-inspired swarm optimization method. This work builds on the ideas from GAS (though applied to reinforcement learning) and acknowledges GAS in the reference list as Hernández <i>et al.</i> (2017b) ³ .

Citing Work (Title)	Authors	Year	Publication (Venue)	How it Cites/Uses GAS
<i>Hardware implementation of metaheuristics through LabVIEW FPGA</i> ⁵	Alexandro A. Ortiz-Espinoza; Efrain Mendez-Flores; David Balderas; Pedro Ponce; Israel Macias; Arturo Molina	2021	<i>Applied Soft Computing</i> (Vol. 113, Article 107908)	Focuses on implementing metaheuristic algorithms on FPGA hardware. GAS is included in the comparative review of optimization algorithms: the authors list "General Algorithmic Search (2017)" as one of the metaheuristics in their literature survey ⁶ . Although the paper's main comparison is among PSO, BA, GWO, EA, and NM on FPGAs, it cites the GAS algorithm (Hernández <i>et al.</i> , 2017) in the references ⁶ as a recent physics-inspired swarm optimization approach.
<i>Faster RCNN mixed-integer optimization with weighted cost function for container detection in port automation</i> ⁷	Steven Bandong; Yul Yunazwin; Nazaruddin; Endra Joelianto	2023	<i>Helijon</i> (Vol. 9, No. 2, e13213)	Proposes improvements to an integer-valued PSO for tuning Faster R-CNN parameters. In its background and references, this article cites the GAS algorithm as an example of a nature-inspired global optimization method ⁸ . The authors include the GAS arXiv preprint (Hernández <i>et al.</i> , 2017) in their reference list ⁹ , indicating awareness of physics-inspired swarm methods; however, GAS is not directly used in experiments, only referenced for context in evolutionary optimization.

Citing Work (Title)	Authors	Year	Publication (Venue)	How it Cites/Uses GAS
<i>A Study on Metaheuristic Approaches for Single- and Multi-Objective Bilevel Optimization</i> (Doctoral thesis)	Jesús-Adolfo Mejía-de-Dios	2022	Ph.D. Thesis, Universidad Veracruzana (Mexico)	Provides a comprehensive review of metaheuristic optimization techniques for bilevel problems. GAS is mentioned in the literature review as a “physics-inspired swarm optimization: the general algorithmic search (GAS)” ¹² . The thesis cites the 2021 book chapter by Hernández <i>et al.</i> as a reference (to illustrate contemporary metaheuristic developments), but does not experimentally use GAS. This reference situates GAS among other modern metaheuristics in the context of complex optimization problem solving.
<i>Estimating Path Loss of High-Speed Railway for the Case of Two Ray Ground Reflection Model</i> (preprint)	Selvi Lukman; Yul Yunazwin Nazaruddin; Bo Ai	2023	SSRN preprint (Aug 2023)	Studies an HSR wireless communication model and uses metaheuristic algorithms (Flower Pollination Algorithm and a neural network) for model fitting. The authors include GAS in the reference list ¹³ , likely as an example of a global optimization metaheuristic. GAS is cited (Hernández <i>et al.</i> , 2017) to acknowledge prior work in physics-inspired optimization, though it is not directly applied in this study.

BibTeX Entries for the Citing Works:

Below are the BibTeX references for each of the works listed above:

```
@misc{hernandez2018fractal,
  author      = {Hern\'andez, Sergio and Dur\'an, Guillermo},
  title       = {Fractal AI: A fragile theory of intelligence},
  year        = {2018},
  archivePrefix= {arXiv},
  eprint      = {1803.05049},
  primaryClass = {cs.AI}
}
```

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@misc{hernandez2018atari,
  author      = {Hern{\'a}ndez, Sergio and Dur{\'a}n, Guillem and Baxevanakis, Spiros},
  title       = {Solving Atari Games Using Fractals and Entropy},
  year        = {2018},
  archivePrefix= {arXiv},
  eprint      = {1807.01081},
  primaryClass = {cs.AI}
}

@article{ortiz2021hardware,
  author      = {Ortiz-Espinoza, Alexandro A. and Mendez-Flores, Efrain and Balderas, David and Ponce, Pedro and Macias, Israel and Molina, Arturo},
  title       = {Hardware implementation of metaheuristics through LabVIEW FPGA},
  journal     = {Applied Soft Computing},
  volume      = {113},
  pages       = {107908},
  year        = {2021},
  doi         = {10.1016/j.asoc.2021.107908}
}

@article{bandong2023faster,
  author      = {Bandong, Steven and Nazaruddin, Yul Yunazwin and Joelianto, Endra},
  title       = {Faster RCNN mixed-integer optimization with weighted cost function for container detection in port automation},
  journal     = {Heliyon},
  volume      = {9},
  number      = {2},
  pages       = {e13213},
  year        = {2023},
  doi         = {10.1016/j.heliyon.2023.e13213}
}

@phdthesis{mejia2022bilevel,
  author      = {Mej{\'i}a-de-Dios, Jes{\'u}s-Adolfo},
  title       = {A Study on Metaheuristic Approaches for Single- and Multi-Objective Bilevel Optimization},
  school     = {Universidad Veracruzana},
  year        = {2022}
}

@misc{lukman2023pathloss,
  author      = {Lukman, Selvi and Nazaruddin, Yul Yunazwin and Ai, Bo},
  title       =
{Estimating Path Loss of High-Speed Railway for the Case of Two Ray Ground Reflection Model},
}

```

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    howpublished = {SSRN preprint 4536627},  
    year         = {2023}  
}
```

1 Sergio Hernández Cerezo - Google Scholar

<https://scholar.google.co.uk/citations?user=0bD8rCkAAAAJ&hl=fr>

2 GitHub - FragileTech/FractalAI_old: Cellular automaton-based calculus for the masses

https://github.com/FragileTech/FractalAI_old

3 4 arxiv.org

<https://arxiv.org/pdf/1807.01081>

5 Hardware implementation of metaheuristics through LabVIEW FPGA | Request PDF

https://www.researchgate.net/publication/354816961_HardwareImplementation_of_Metaheuristics_Through_LabVIEW_FPGA

6 Hardware implementation of metaheuristics through LabVIEW FPGA

<https://dl.acm.org/doi/10.1016/j.asoc.2021.107908>

7 Faster RCNN mixed-integer optimization with weighted cost function for container detection in port automation - ScienceDirect

<https://www.sciencedirect.com/science/article/pii/S2405844023004206>

8 9 Faster RCNN mixed-integer optimization with weighted cost function ...

[https://www.cell.com/heliyon/pdf/S2405-8440\(23\)00420-6.pdf](https://www.cell.com/heliyon/pdf/S2405-8440(23)00420-6.pdf)

10 11 12 uv.mx

<https://www.uv.mx/dia/files/2023/08/Thesis-JesusMejia.pdf>

13 [PDF] estimating path loss of high-speed railway for

<https://papers.ssrn.com/sol3/Delivery.cfm/d610c4a8-6aaa-48d8-82ce-31f8b3ed2696-MECA.pdf?abstractid=4536627&mirid=1>