1. **Five Recent and Relevant Sources.**

[**https://shorturl.at/08zuZ**](https://shorturl.at/08zuZ)

[**https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=5101269**](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5101269)

<https://ieeexplore.ieee.org/abstract/document/4219020>

<https://www.atlantis-press.com/proceedings/icaic-24/126003415>

*non accessible*

[**https://ieeexplore.ieee.org/abstract/document/9917383**](https://ieeexplore.ieee.org/abstract/document/9917383)

[**https://link.springer.com/chapter/10.1007/978-3-031-81713-7\_18**](https://link.springer.com/chapter/10.1007/978-3-031-81713-7_18)

[**https://ieeexplore.ieee.org/abstract/document/9357946**](https://ieeexplore.ieee.org/abstract/document/9357946)

1. **Literature Map.**
2. **Literature Review.**

***Paper 1:*** The Role of AI in Game Development and Player Experience

* **Research Aim**

**To explore how AI enhances player experience and game design through dynamic difficulty adjustment, procedural content generation, and adaptive NPCs.**

* **Dataset**

**The study is a literature review; it does not use empirical datasets but synthesizes findings from 30 peer-reviewed sources.**

* **Algorithm**

**Surveys use AI techniques including machine learning, neural networks, GANs, DDA, and emotional AI in modern AAA games.**

* **Evaluation**

**Analyzes how these systems were implemented in games like The Last of Us Part II and Red Dead Redemption 2. Highlights game-specific case studies and qualitative impacts.**

* **Limitations**

**Does not include quantitative benchmarks or comparative evaluations. Limited to descriptive analysis.**

* **Recommendations**

**Encourages research into personalized AI systems that adapt to player psychology and deeper integration of AI in storytelling.**

***Paper 2:* A Systematic Review of Coevolution in Real-Time Strategy Games**

* **Research Aim**

**To systematically review the use of coevolutionary algorithms in RTS games, analyzing their purposes, implementations, challenges, and emerging trends across three developmental stages**

* **Dataset**

**This is a systematic review, so no empirical datasets were used. However, 53 relevant publications were analyzed using NVivo for qualitative synthesis.**

* **Algorithm**

**Focuses on coevolutionary algorithms such as Genetic Algorithms (GA), Genetic Programming (GP), and hybrid models. Discusses Hall-of-Fame (HoF), Layered Pareto Coevolution Archive (LAPCA), influence maps, and simulation-based agent controllers.**

* **Evaluation**

**Synthesizes findings from literature using thematic analysis. Evaluates coevolution purposes (NPCs, game strategies, content), agent controllers, evolutionary memory, and coordination vs cooperation.**

* **Limitations**

**Performance comparison across systems was not feasible due to lack of code availability, varying implementation environments, and absence of unified benchmarks.**

* **Recommendations**

**Suggests exploring multi-objective coevolution, improving convergence stability, better memory handling, evolving content alongside agents, and enhancing agent coordination. Emphasizes the need for more robust systems and shared testing environments.**

***Paper 3:* A System for Orchestrating Multiple Procedurally Generated Content for Different Player Profiles**

* **Research Aim**

**To develop and evaluate a modular system that orchestrates the procedural generation of multiple game content types (levels, quests, enemies) tailored to different player profiles, enhancing personalization and gameplay diversity in real-time.**

* **Dataset**

**Empirical study using gameplay data from 83 players, who played 204 levels and completed both pretest and post-test questionnaires. Player profiles were derived from psychometric questions, and gameplay metrics were used to analyse system effectiveness.**

* **Algorithm**
* **Evaluation**
* **Limitations**
* **Recommendations**

***Paper 4:* Applications of Artificial Intelligence in Game Algorithms**

* **Research Aim**

**To review the historical evolution, current applications, and future prospects of artificial intelligence in game algorithms, emphasizing player interactivity and developer efficiency.**

* **Dataset**

**No specific dataset was used. The paper is a comprehensive review of literature and existing technologies.**

* **Algorithm**

**Discusses a variety of AI techniques including Finite State Machines, Behavior Trees, Decision Trees, Neural Networks, Genetic Algorithms, Reinforcement Learning (AlphaGo, OpenAI Five), and Procedural Content Generation (PCG).**

* **Evaluation**

**Evaluation is qualitative, based on summarizing achievements of AI systems like AlphaGo and OpenAI Five, and their implications in game design such as NPC behavior, pathfinding, and personalized gameplay.**

* **Limitations**

**Lacks empirical testing or data-driven validation. Primarily a theoretical review without performance metrics.**

* **Recommendations**

**Future work should explore the integration of real-time AI feedback systems and deeper personalization strategies with reinforcement learning and neural networks.**

***Paper 5***

* **Research Aim**
* **Dataset**
* **Algorithm**
* **Evaluation**
* **Limitations**
* **Recommendations**

1. **Comparison Table.**
2. **Literature Map.**
3. **Literature Review.**
4. **Comparison Table.**