



AI Adaptation in Game Design

Michael Porcaro

AI adaptation on Game Design industry

- With advancements of AI technology, AI has become an option for a universal tool in the game design industry
 - Business
 - Game Dynamics
 - AI Adaptation

Typical applications of AI in games

Graphics

**Image
enhancement**

Complexity

**Balancing in-game
complexity**

Immersion

**Adding intelligence to
non-playing characters
(NPCs)**

Typical applications of AI methods in games

Decision trees

Enriches game choices

Neural Networks

More Adaptive game agents

Reinforcement learning

Picks up on errors

Popular examples of projects with AI
systems

Starcraft II - Computer player provides

realistic challenge for players

Alien Isolation - Player immersion

Forza Horizon- Advanced Ai allows game
to learn from players actions

How AI systems impact business

Budget & Time

Delivery costs can be reduced dramatically

Streamlined processes

Assists developers by automatically generating content such as landscapes and levels

Better User Experience

AI enhancing adaptation

AI systems are an all purpose solution for game design industry



Streamlining Business

Streamlining many aspects of the game design process to cut deadlines



Advancing Gameplay

Enriching choices, graphics, and NPC action in games



Improving the user experience

Systems that adapt to the end-users style