



# Boosting AI Agent Performance: The Power of Procedural “Skills”

Agent Skills are modular packages of procedural knowledge that augment AI agents at inference time, providing the “how-to” guidance for specialized tasks.

## The Performance Edge

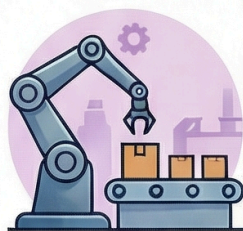
**+16.2%**  
Average Performance Boost  
Across 84 Professional Domains



High Gains in  
Specialized Fields



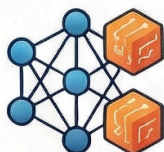
Healthcare  
**+51.9**  
percentage points



Manufacturing  
**+41.9**  
percentage points

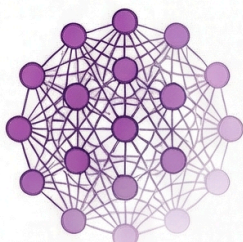
Improvements are highest where training data is sparse.

## Skills vs. Model Scale



Small Model  
with Skills

Small models with skills can outperform larger models lacking procedural guidance.



Large Model without  
Procedural Guidance

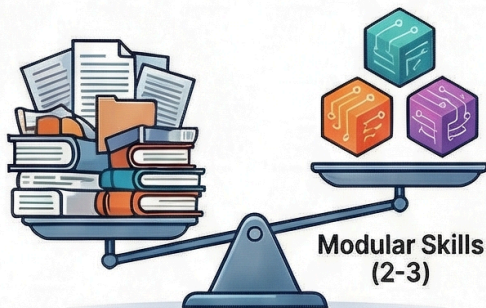
## Design Principles for Effective Skills

Human Curation is  
Non-Negotiable



Self-generated AI skills decrease performance; human expertise is essential.

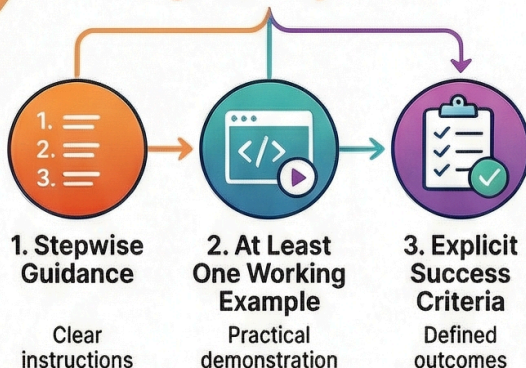
## Focus Over Complexity



Modular Skills  
(2-3)

Agents perform best with 2-3 modular skills rather than dense, comprehensive documentation.

## The Anatomy of a High-Quality Skill



1. Stepwise  
Guidance

Clear instructions

2. At Least  
One Working  
Example

Practical demonstration

3. Explicit  
Success  
Criteria

Defined outcomes