

Tool Metadata Report (by MetadataFetcher)

1. General Information

Name	blender
Use Case	Creative and Media Tools
Homepage	https://www.blender.org/
Description	Blender is a free and open-source 3D creation suite that supports the entirety of the 3D pipeline—modeling, rigging, animation, simulation, rendering, compositing, and motion tracking. It's a comprehensive 3D graphics application used by artists, designers, animators, and game developers worldwide.

2. Main Functions:

- 3D modeling and sculpting
- Animation and rigging
- Rendering with multiple engines (Cycles, EEVEE, Workbench)
- Video editing and compositing
- Simulation (fluid, smoke, cloth, rigid body)
- Motion tracking and camera reconstruction

3. Supported Data Formats:

- Native .blend files
- Import/Export: OBJ, FBX, COLLADA, 3DS, PLY, STL
- Image formats: PNG, JPEG, TIFF, EXR, HDR
- Video formats: AVI, MOV, MP4

4. System Requirements:

- Download from official website (blender.org)
- Available for Windows, macOS, and Linux
- Portable versions available
- Regular LTS and feature releases

5. Installation & Setup:

- CRAN repository with thousands of packages
- Integration with Python, C/C++, and Fortran
- Database connectivity tools
- Machine learning and AI frameworks

6. Key Features:

- Advanced polygon modeling tools
- Multi-resolution sculpting with dynamic topology
- Node-based shader and compositing systems
- Physics simulations and particle systems
- Grease Pencil for 2D animation in 3D space
- Python scripting API for automation

7. Plugin/Extension Support:

Extensive add-on ecosystem
Built-in Python console for scripting
Third-party add-ons for specialized workflows
Asset libraries and templates

8. User Interface Overview:

Customizable workspace layouts
Context-sensitive menus and properties
Hotkey-driven workflow
Multiple editor types (3D Viewport, Outliner, Properties)

9. Community & Tutorials:

Large, active open-source community
Extensive official and community tutorials
Annual Blender Conference
Active forums and social media presence

10. Licensing:

GNU General Public License v2+ (free and open source)

11. Latest Version / Release Date:

Regular quarterly releases with LTS versions every 2 years

12. Example Projects / Outputs:

Feature films and short animations
Architectural visualization
Product design and prototyping
Game asset creation
Scientific and medical visualization

13. References:

Official Website: <https://www.blender.org>

Documentation: <https://docs.blender.org>

Community Hub: <https://www.blender.org/community>

14. Other Links:

<https://www.blender.org/download/> - Official Download Page

<https://docs.blender.org/manual/en/latest/> - Official Manual

<https://www.blenderguru.com/> - Blender Guru Tutorials

<https://cgcookie.com/lessons> - CG Cookie Learning Platform

<https://www.youtube.com/user/BlenderFoundation> - Official YouTube Channel

<https://blenderartists.org/> - Community Forum

<https://cloud.blender.org/welcome> - Blender Cloud Resources

<https://github.com/blender/blender-addons> - Official Add-ons Repository

<https://www.blendernation.com/> - Blender News and Resources

<https://blendermarket.com/> - Commercial Add-ons Marketplace

<https://docs.blender.org/api/current/> - Python API Documentation
<https://www.reddit.com/r/blender/> - Reddit Community
<https://blender.stackexchange.com/> - Stack Exchange Q&A
<https://academy.cgboost.com/> - CGBoost Academy
<https://www.creativeshrimp.com/> - Creative Shrimp Tutorials
<https://blendswap.com/> - Free Blender Models
<https://docs.blender.org/manual/en/latest/advanced/scripting/> - Scripting Guide
<https://www.blender.org/support/> - Official Support Resources
<https://devtalk.blender.org/> - Developer Forum
<https://www.blender.org/conference/> - Blender Conference