

MecSoft Corporation  
Your CAM Partner

MecSoft

# VisualCAM 2019

*Computer Aided Manufacturing for everyone!*

Powerful | Easy To Learn | Easy To Use | Value Priced



# VisualCAM®

VisualCAM includes VisualMILL, VisualTURN, VisualNEST, VisualART & VisualMESH. A complete CNC programming system for rapid prototyping, mold & die, tooling, wood working, general machining, hobby & education.

VisualMILL includes powerful 2 -1/2, 3, 4 and 5 axis machining functionality to program CNC mills. Also includes automatic feature detection & machining. Comes with hundreds of free post-processors and the ability to create new ones.

VisualART converts artwork to geometry suitable for machining. Used for modeling artistic shapes using bitmap images, VisualART extends the capabilities of the MILL module.

VisualNEST with both Rectangular & True Shape nesting is used for optimally arranging and fitting arbitrary part geometry shapes onto sheets of stock material.

VisualTURN is a complete 2 axis CNC turning center programming system, including Roughing, Finishing, Grooving and other machining methods as well as free post-processors.

VisualMESH offers efficient, easy and automatic tools for cleaning, fixing up and refining 3D mesh data for downstream applications such as toolpath programming as well as 3D printing.

Also available as plug-ins to  
Rhino® 5/6, SOLIDWORKS® &  
Alibre Design®

# VisualMILL 2019

VisualMILL is one of the modules in the VisualCAD/CAM product suite that is used for programming CNC mills. It is ideal for rapid-prototyping, mold & die, tooling, wood working, general machining, hobby and education. VisualMILL includes 2.5, 3, 4 and 5 axis machining functionality. It comes with hundreds of free post-processors and a post-processor generator to create your own. VisualMILL delivers outstanding value for your investment.



## Available Configurations

### MILL Xpress (XPR)

A program ideal for hobbyists, makers and students, suitable for getting started with CAM programming. Includes 2 & 3 axis machining methods.

### MILL Professional (PRO)

For demanding users with sophisticated requirements such as mold, die & tooling, woodworking industries. Includes all of EXP plus indexed 5 axis machining and advanced 3 axis machining methods.

### MILL Standard (STD)

A multi-purpose program ideal for production, rapid prototyping, panel-processing & general machining, where ease of use and a complete tool set is important. Includes 2 and 3 axis machining methods.

### MILL Expert (EXP)

Includes all of STD functionality plus a wider range of 2, 3 axis methods as well as 4 axis Indexed and continuous roughing and finishing operations as well as advanced simulation.

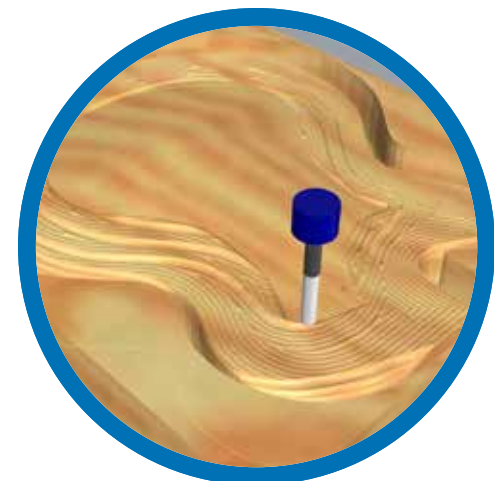
### MILL Premium (PRE)

For demanding users with highly sophisticated manufacturing requirements such as aerospace, advanced mold making and woodworking. All of PRO functionality plus continuous 5 Axis machining.

2 1/2-Axis Milling	XPR	STD	EXP	PRO	PRE
Pocketing	●	●	●	●	●
Profiling	●	●	●	●	●
Facing	●	●	●	●	●
Engraving	●	●	●	●	●
V-Carving	●	●	●	●	●
V-Carve Roughing	●	●	●	●	●
Automatic Feature Detection	●	●	●	●	●
Automatic Feature Machining	●	●	●	●	●
Slot Milling	●	●	●	●	●
2-Axis Roughing	●	●	●	●	●
High Speed Pocketing	●	●	●	●	●
Chamfering	●	●	●	●	●
Hole Making	●	●	●	●	●
T-Slot Milling	●	●	●	●	●
Thread Milling	●	●	●	●	●
Fillet Machining	●	●	●	●	●
Drag Knife Cutting	●	●	●	●	●
Re-Machining	●	●	●	●	●
3 Axis Milling	XPR	STD	EXP	PRO	PRE
Horizontal Roughing	●	●	●	●	●
Parallel Finishing	●	●	●	●	●
3 Axis Feature Detection	●	●	●	●	●
3 Axis Feature Machining	●	●	●	●	●
Horizontal Finishing	●	●	●	●	●
Radial Machining	●	●	●	●	●
Spiral Machining	●	●	●	●	●
Clear Flats Machining	●	●	●	●	●
Plunge Roughing	●	●	●	●	●
Horizontal Re-roughing	●	●	●	●	●
Plunge Re-roughing	●	●	●	●	●
Projection Pocketing	●	●	●	●	●
3D Offset Profiling	●	●	●	●	●
3D Offset Pocketing	●	●	●	●	●
Pencil Tracing	●	●	●	●	●
Valley Re-Machining	●	●	●	●	●
Plateau Machining	●	●	●	●	●
Steep Area Parallel Machining	●	●	●	●	●
Horizontal Hill Machining	●	●	●	●	●
Curve Machining	●	●	●	●	●
Between 2 Curves Machining	●	●	●	●	●
Reverse Post Machining	●	●	●	●	●

4 Axis Milling	XPR	STD	EXP	PRO	PRE
4 Axis Indexed Machining	●	●	●	●	●
4 Axis Create Round Stock	●	●	●	●	●
4 Axis Auto Multiple Indexing	●	●	●	●	●
4 Axis Continuous Facing	●	●	●	●	●
4 Axis Continuous Pocketing	●	●	●	●	●
4 Axis Continuous Profiling	●	●	●	●	●
4 Axis Continuous Engraving	●	●	●	●	●
4 Axis Parallel Roughing	●	●	●	●	●
4 Axis Parallel Finishing	●	●	●	●	●
4 Axis Radial Finishing	●	●	●	●	●
4 Axis Projection Pocketing	●	●	●	●	●
4 Axis Drive Surface Machining	●	●	●	●	●
5 Axis Milling	XPR	STD	EXP	PRO	PRE
5 Axis Indexed Machining	●	●	●	●	●
Locked 4 Axis Machining	●	●	●	●	●
5 Axis Curve Projection Machining	●	●	●	●	●
5 Axis Flow Curve Machining	●	●	●	●	●
5 Axis Between 2 Curves Machining	●	●	●	●	●
5 Axis Drive Curve Machining	●	●	●	●	●
5 Axis Surface Normal Machining	●	●	●	●	●
5 Axis Swarf Machining	●	●	●	●	●
Hole Making	XPR	STD	EXP	PRO	PRE
Automatic Hole Selection, Sorting	●	●	●	●	●
Drilling	●	●	●	●	●
Tapping	●	●	●	●	●
Boring	●	●	●	●	●
Reverse Boring	●	●	●	●	●
User Defined Cycles	●	●	●	●	●
4 Axis Drilling	●	●	●	●	●
4 Axis Tapping	●	●	●	●	●
4 Axis Boring	●	●	●	●	●
4 Axis Reverse Boring	●	●	●	●	●
Simulation	XPR	STD	EXP	PRO	PRE
Toolpath Animation	●	●	●	●	●
Cut Material Simulation	●	●	●	●	●
Advanced Cut Material Simulation	●	●	●	●	●
Machine Tool Simulation	●	●	●	●	●
Tools	XPR	STD	EXP	PRO	PRE
Mill Tools (Ball, Flat, C Rad., Vee)	●	●	●	●	●
Drill Tools (Drill, Counter Sink)	●	●	●	●	●
Other (Tap, Bore, R. Bore, Form)	●	●	●	●	●
Tool Holder Collision	●	●	●	●	●

Toolpath Editing	XPR	STD	EXP	PRO	PRE
Toolpath Graphical Viewing	●	●	●	●	●
Toolpath Graphical Editing	●	●	●	●	●
Toolpath Instancing	●	●	●	●	●
Toolpath Arc Fitting	●	●	●	●	●
Feed Rate Optimization	●	●	●	●	●
Post Processor Generator	XPR	STD	EXP	PRO	PRE
Customizable Post Generator	●	●	●	●	●
Simulate Cycles	●	●	●	●	●
Arc Output	●	●	●	●	●
Helix Output	●	●	●	●	●
Spiral Output	●	●	●	●	●
5 Axis Output	●	●	●	●	●
Miscellaneous	XPR	STD	EXP	PRO	PRE
64 Bit	●	●	●	●	●
HTML Based Shop Documentation	●	●	●	●	●
Stepped Tooling	●	●	●	●	●
Knowledge Base	●	●	●	●	●
Default Knowledge Base	●	●	●	●	●
Avoid/Pre-Defined Regions	●	●	●	●	●
Machine Control Operations	●	●	●	●	●
Explode Cabinet Model	●	●	●	●	●
Rotate Table Setups	●	●	●	●	●
Multiple Setups	●	●	●	●	●
Fixture Offset Programming	●	●	●	●	●
Check Surface Boundary Creation	●	●	●	●	●
Tool Silhouette Boundary Creation	●	●	●	●	●
Tool Double Contact Boundary Creation	●	●	●	●	●
Tool Holder Collision Boundary Creation	●	●	●	●	●



## VisualART 2019

VisualART is a module within the VisualCAM product suite used to convert artwork into geometry suitable for machining. It uses special modeling techniques for modeling artistic shapes using raster bitmap images. Used in conjunction with VisualCAD's modeling tools, it offers a complementary set of modeling techniques for jewelry design, sign making and model making.



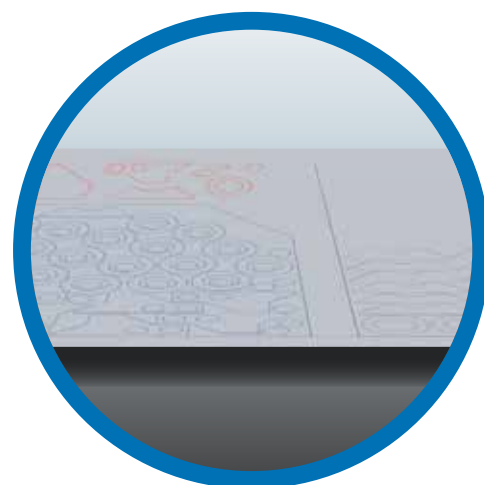
### Features & Functions

- Create 3D Relief from bitmap image files
- Ability to limit creation of reliefs using colors and/or curves
- Create puffed up 3D volumes using closed curves
- Create 3D sweep volumes using various profiles
- Combine 3D volumes using various Boolean operations during creation
- Export created 3D volumes as Mesh geometry to CAD system
- Convert 3D CAD geometry to ART 3D volumes
- Create 2D Curve geometry from image files using Raster to Vector operations
- All operations are associative to CAD geometry used in creation
- Save and reuse previously created 3D volumes using Shape Library functionality

**ART is included in FREE all configurations of MILL!**

## VisualNEST 2019

VisualNEST, another module of VisualCAM, is a cost effective solution for optimally arranging and fitting geometric shapes onto sheets of stock or sheet material. It provides two primary nesting capabilities: Rectangular Nesting and True Shape Nesting. For both solutions, individual 2D CAD shapes can be arranged on sheets according to user-defined quantities, spacing, and with orientation control, including material grain restrictions.



**Rectangular Nesting** is useful in cases where shapes are rectangular, such as when nesting panels for the assembly furniture industry.

**True Shape Nesting** considers the true shape of parts to be nested and can place smaller parts within cutouts of larger parts and can also accept true shape remnants as material sheets. VisualNEST saves the resultant nested geometry for follow-up applications' use such as machining or fabrication.

### User Interface Features

- Wizard Interface
- Preview before output

### Nesting Methods

- Rectangular/Block Nesting
- True Shape Nesting

### Global Parameters

- Distance limits between part and sheet
- Distance limits between two adjacent parts
- Accuracy control of nesting

### Sheet Parameters

- Sheet start corner
- Nesting direction
- Grain direction
- Unlimited number of sheets
- Sheet layering by color

### Part Parameters

- Distance limits between part and part
- Rotation limits
- Mirroring
- Island recognition
- Part-in-Part
- 3D Solids Selection

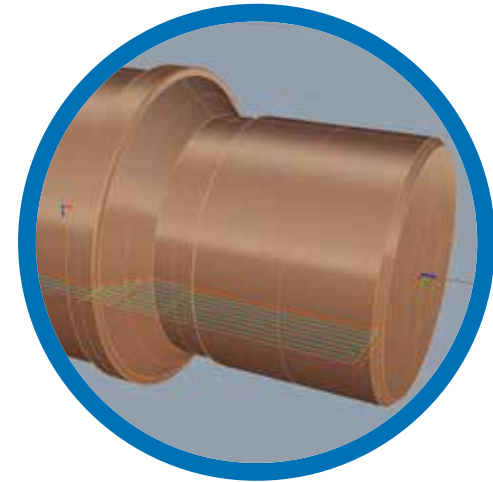
### Miscellaneous

- Tagging of parts
- Nesting for cabinet making
- Nesting for sign making
- Estimate # of sheets,
- Calculate Sheet Utilization
- Export Sheets to Files

**NEST is included FREE in all configurations of MILL!**

# VisualTURN 2019

VisualTURN is a powerful 2 axis turning center/lathe programming system, that is included as a separately licensed module inside VisualCAM. This module includes Roughing, Finishing, Groove Roughing, Finishing, Threading, Parting, Hole Machining methods & free post processors.



<b>2 Axis Turning</b>	<b>Hole Making</b>
Roughing	Drilling
Finishing	Tapping
Groove Roughing	Boring
Groove Finishing	Reverse Boring
Threading	
Follow Curve	
Parting Off	
Global Part Object	
Curve or Solid Part Object	
Materials for Stock Models	
Knowledge Base Loading and Saving	
Tool Path Viewer	
MopSets	
Machine Control Operations	
Fixture Offset Operations	
Drag and drop operations from Knowledge Base	
Diameter Programming	

<b>Toolpath Simulation</b>
Toolpath Animation
Cut Material Simulation
Part to Stock Comparison

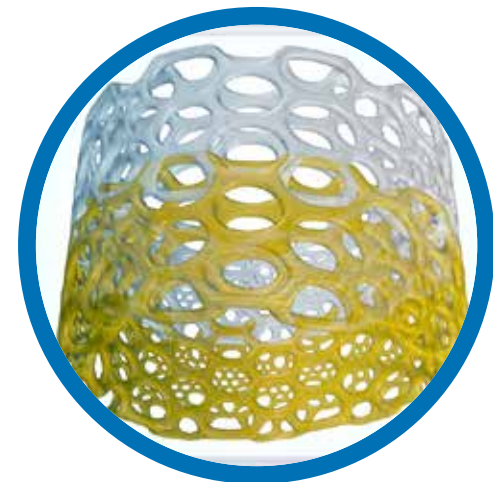
  

<b>Post-Processor Generator</b>
User customizable post-processor generator

**TURN is included FREE with MILL configurations STD, EXP, PRO & PRE**

# VisualMESH 2019

VisualMESH offers efficient, easy & automatic tools for cleaning and fixing up 3D mesh data for downstream applications such as toolpath programming and/or 3D printing.



<b>Features &amp; Functions</b>
Import solids, surfaces, meshes & point clouds to create meshes
Create meshes using VisualCAD's mesh tools
Reduce density of large meshes while maintaining data integrity
Edit meshes by transforming, splitting and merging geometry
Edit local selections on meshes using a graphical manipulator
Combine meshes using Boolean Unite, Subtract and Intersect
Smooth meshes when data is noisy, such as data from a scanner
Refine meshes globally/locally using various criteria for print quality
Analyze meshes using reflection lines, curvature & comparison plots
Auto/Manual fix meshes to remove gaps, holes & self intersections
Find best orientation for printing with minimum overhangs
Create straight/tree supports in areas with overhangs
Output to STL/AMF/G-Code files or use Windows 3D print driver

**MESH is separately priced and can be bought independently or bundled**

## System Requirements

- Runs on both 32 and 64 bit versions of VisualCAD 2019
- CPU: Pentium class or higher processor
- RAM: Minimum: 1GB, Recommended: 4GB or higher
- Disk: 700 MB of free disc space
- OS: Microsoft Windows 7, 8, 8.1, 10
- Graphics: Requires OpenGL, Recommended OpenGL 2

## Other

- [Free Technical Support](#)
- [Training](#)
- [Support Forum](#)
- [Maintenance Services](#)
- [Value Pricing](#)