# Mohcen Hafidi

***Master's degree in computer graphics and currently in the 5th year of a Ph.D. program. Over 3 years of experience in the computer graphics industry.***


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## Professional

2018 – present

Researcher & 3D Generalist at Charles University:

*Conducted cutting-edge research and implemented advanced appearance models using procedural generation. Most recently developed a state-of-the-art procedurally generated wood model (see paper here).*

Computer Graphics Projects Designer and Developer:

*Designed and developed a total of 8 computer science projects; most of them were developed using C++/Java/Python. My clients were chronologically from: Greece, USA, Turkey, Poland, Germany, and Canada. (Clients Reviews)*

Freelancing Projects:

*A C++ GPU based Mesh editor for the 3D printer, a C++ Shader based human body and facial animator, a C++ Predator-Prey Simulator using a Particles System, a CPU/GPU based physics engine, Optimization using GPGPU CUDA and sometimes GLSL for projects that require visual debugging.*

Masters' Projects Assistant:

*I provided guidance and help to master's students throughout their master's final projects. My assistance concerned the thesis writing and the coding part.*

## Education

2013 – present

2021-present

*Ph.D. in Computer Graphics (5th year)*

*Czech Republic, Prague, Charles University*
*Department of Mathematics and Physics*
*Project Supervisor: Pr. Alexander Willkie*

2018

*M.Sc. in Computer Science (with honors)*

*Algeria, Biskra, University of Mohamed Khider*
*Department of Computer Science*
*Thesis Title: "A GPU Optimized, 3D Photo-Realistic, Real Time and Interactive Fire Simulator Based on a Particles System" (project built from scratch using JAVA, results)*
*Thesis Supervisor: Pr. Foudil Cherif*

2016

*B.Sc. in Computer Science and Mathematics*

*Algeria, Biskra, University of Mohamed Khider*
*Department of Computer Science*
*Final Project Title: "Predictive Cost (money and personnel) Software Based on the COCOMO Model"*

## Languages

English ●●●●○ *Tested by Charles university and EF Test*

French ●●●●○ *Tested by The French TCF test*

Arabic ●●●●● *Native*

## Skills

3D software:

*Expert: Blender (advanced node graphs)*

*Proficient: Houdini (SideFX), Maya, 3DS Max, Material Maker*

Image Processing software:

*Inkscape, Gimp, Krita, Photoshop, Illustrator*

Shader Programing:

*GLSL, HLSL, OSL, ShaderToy.*

Programing:

*Primary: C++, Python, Java.*

*Secondary: Cuda, OpenAL, Matlab, OpenCV, GLSL, Vulkan.*

Modeling:

*UML: Extensive experience with class and use case diagrams for freelance and project design*

Mathematics:

*Algebra, trigonometry, Monte Carlo methods, gradients, procedural noise, quaternions, barycentric coordinates, etc.*

Physics:

*Light transport, Physics engines.*

Computer Graphics:

*Ray tracing, GPGPU/parallel programming, geometric transformations, PBR, real-time rendering, etc.*

Networking:

*Home lab setup, self-hosting, basic network administration.*

Mainly Used Operating Systems:

*Linux (Ubuntu), Windows (XP–10 Pro).*

## Personal Interests

Sports:

*Swimming, ice skating, karate, and mostly gym.*

Pet care:

*I enjoy seeing shelter dogs thrilled when I take them for a walk.*

Art:

*Digital drawing (AE).*

Gaming:

*I enjoy online games like LOL or CS since they do not take much time (≈ 30 min/round).*

*I also enjoy survival ones when I have time, games such as green hell, ark, and raft.*