

# Riko Ophorst

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## Summary

Rendering & software engineer with a passion for high-performance, high-quality 3D renderers for the games & VFX industry. 3.5 years experience as a Rendering Engineer in the VFX industry at OTOY.

<http://www.rikoophorst.com/>

## Experience

### Rendering Engineer

OTOY

Jul 2020 - Present (2 years 1 month +)

Projects:

- "Nanite for Octane" - virtualized geometry & virtualized textures allowing for endless detail in production scenes.
- Brigade, a real-time production-quality path tracer.
- Octane X for MacOS: port of the well-known OctaneRender renderer.
- Various R&D projects (under NDA unless publicly announced)

Responsibilities:

- R&D for the core algorithms & data structures (e.g. geometric simplification) for OTOY's "Nanite for Octane" tech.
- Building & maintaining a low-level Vulkan-based rendering library used in OTOY products
- Involved in the inception of the Brigade render engine (systems & rendering architecture)
- Giving low-level support to Octane team for porting Octane, a Windows-only CUDA-only production renderer, to run on Apple's MacOS on AMD and Intel GPUs.

Keywords:

- Vulkan, Metal, C++, C, GLSL, SPIRV, porting, cross-compilation, optimization, research, parallel programming, GPGPU, raytracing, pathtracing, realtime rendering, production rendering, problem solving

### Junior Rendering Engineer

OTOY

Jul 2019 - Jul 2020 (1 year 1 month)

(same responsibilities as above)

### Intern Rendering Engineer

OTOY

Feb 2019 - Jul 2019 (6 months)

- Research on pathtraced per-vertex & per-object motion blur on raytracing hardware with new raytracing API's (Vulkan Raytracing)

- Building & maintaining a low-level Vulkan-based rendering library for internal use



## Junior Software Engineer

### CPMFactory

Sep 2018 - Feb 2019 (6 months)

- Building web-based performance management tools for businesses.
- Worked mostly on the C# ASP.NET backend and the HTML & JavaScript driven frontend.
- Implemented a localization system that allows the tool to be localized to many different languages.
- Implemented various data-entry and validation functionalities.
- Implemented an error-logging system that catches, stores and displays any and all exceptions that occur at runtime using ELMAH.

Keywords: C#, HTML, JavaScript, Vue, Kendo, CSS, ASP.NET, Scrum, Azure DevOps, GitFlow.



## Intern HTML5 Game Developer

### CoolGames

Aug 2014 - Jan 2015 (6 months)

- Intern HTML5 game developer on a team of around 15 people.
- Worked on various projects for the mobile gaming platform using HTML5 and JavaScript.
- Built tools to easily design scalable UI using the Cocos2D UI editor.
- Backend tools using NodeJS
- Porting & re-skinning games bought out by CoolGames.
- Heavily involved in the process of developing the core game mechanics for the projects I worked on.
- Created a custom tool to do precompilation in JavaScript.

Keywords: JavaScript, NodeJS, HTML5, Scrum, Cocos2D, Regular Expressions, JIRA



## Intern HTML5 Game Developer

### Spil Games by Azerion

Jan 2014 - Jun 2014 (6 months)

- Intern HTML5 game developer on a team of 15 people.
- Contributed to various projects for Spil's mobile gaming platforms using HTML5 and JavaScript.
- Developing scalable UI for dynamic resolutions,
- Developing back-end tools using NodeJS
- Building & implementing tutorials in the games we made.
- Heavily involved in the process of developing the core game mechanics of the games I worked on.
- Built tools to facilitate a faster production pipeline, for example a way to easily convert source assets to usable assets in game.
- Built unit-tests according to TDD standards to ensure stable builds.

Keywords: JavaScript, NodeJS, GruntJS, HTML5, Scrum, JIRA

## Education



### Breda University of Applied Sciences

BSc, Computer Graphics

2015 - 2019

BSc in Computer Graphics at the Breda University of Applied Sciences (formerly known as NHTV) in the study Creative Media & Games Technology (formerly IGAD). Specialized in realtime computer graphics for games using DirectX 12 and DirectX Raytracing (DXR).



## **SintLucas**

Game Art- & Development, Computer Games and Programming Skills

2012 - 2015

Secondary vocational degree in game development at SiNTLUCAS Eindhoven. Focused primarily on HTML5 games development during this study. I managed to complete this study in 3 years instead of 4, because I was excelling at the course.

## **Skills**

Ray Tracing • Rendering • Research and Development (R&D) • Graphics Programming • C++ • Vulkan • Test Driven Development • Scrum • C# • JavaScript