

# Raoul Wols

*curriculum vitæ*



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## 🎓 Education

from **sep 2001** **Gymnasium**  
to **june 2007** JOHAN DE WITT GYMNASIUM (Dordrecht, The Netherlands)

from **sep 2007** **Minor Jazz Piano**  
to **june 2010** ROYAL CONSERVATORY OF THE HAGUE (The Hague, The Netherlands)  
Final grade: 7.5

from **sep 2007** **Bachelor of Science in Mathematics**  
to **july 2012** LEIDEN UNIVERSITY (Leiden, The Netherlands)  
Final grade: 7

thesis EINDIGE TOPOLOGISCHE RUIMTEN  
advisor Dr. R.S. de Jong

from **sep 2012** **Master of Science in Mathematics**  
to **july 2016** LEIDEN UNIVERSITY (Leiden, The Netherlands)  
Final grade: 7.5  
thesis A MCCORD FUNCTOR FOR ALEXANDROFF CATEGORIES  
advisor Dr. O.D. Biesel

## Extracurricular Activities

- from **sep 2007** to **sep 2008** **Treasurer of Music Committee**  
DE LEIDSCH FLESCHE (Leiden, The Netherlands)  
I was treasurer of a newly-founded committee that would encourage and incentivize students in the exact sciences faculty to get on stage and show their artistic talents.
- from **sep 2008** to **sep 2009** **Chairman of Music Committee**  
DE LEIDSCH FLESCHE (Leiden, The Netherlands)  
The next year I became chairman of the same committee. The committee is still going strong as of this writing.
- from **sep 2007** to **sep 2014** **Keyboardist**  
"THE CIRCUMSTANCES" (The Netherlands)  
I played keyboards in an indie-rock band. We played at lots of places like The Melkweg in Amsterdam, 013 in Tilburg. We made an album that's available on iTunes.
- from **sep** **Baritone**  
BARBERSHOP QUARTET "AUTO O' TUNE" (The Hague area)  
I sang baritone in a quartet.

## Experience

- from **july 2011** to **jan 2012** **Intern**  
ROSERCONS Sys B.V. (Dordrecht, The Netherlands)  
I researched resource constrained project scheduling problems. i.e. finding algorithms that will produce, in polynomial time, a "good" schedule. A resource constrained project scheduling problem is of class NP-hard if the goal is to find the optimal schedule. The languages were VB.NET and C++.
- from **sep 2008** to **jan 2009** **Tutor**  
LEIDEN UNIVERSITY MATH FACULTY (Leiden, The Netherlands)  
I assisted a small group of students with their homework.
- from **jan 2013** to **july 2014** **Teaching Assistant**  
LEIDEN UNIVERSITY MATH FACULTY (Leiden, The Netherlands)  
I assisted students in the Algebra 1 course.
- from **july 2016** to **jan 2017** **Founder**  
PRIMEF.ACTOR ENTERTAINMENT (Papendrecht, The Netherlands)  
I dedicated my time to create a video game called "Alien Invasion Game". The engine used was Unity, so everything is written in C#.

## Projects

name [Plan-IT](#)  
language *VB.NET*  
description Scheduling software with a GUI for which I wrote a proof-of-concept genetic algorithm.

name [Firing Neurons](#)  
type *EP*  
description An Indie-Rock EP released on iTunes. I played keyboards.

name [gintonic](#)  
language C++  
description A hobby render engine. The current render method is deferred.

name [Alien Invasion Game](#)  
language C#  
description A 2D platformer with shoot mechanics. Can be found at [rwols.itch.io](http://rwols.itch.io).

name [Clara](#)  
language *C++ and Python*  
description Sublime Text 3 plugin for semantic C++ auto-completions. This has a compiled component. So the main language is C++, with some Python bindings.

name [yaml-archive](#)  
language C++  
description A drop-in replacement for `boost::archive::xml_oarchive` and `boost::archive::xml_iarchive` from the Boost.Serialization library.

name [CMakeBuilder](#)  
language *Python*  
description Sublime Text 3 plugin for building CMake projects.

## 🗨 Natural Languages

- [Dutch](#) Mother tongue.
- [English](#) Fluent in conversation and comprehension.

## 🗨 Programming Languages

- [C++](#) Expert in language and standard library usage.
- [C#](#) Expert in language, adequate in standard library usage.
- [Python](#) Adequate in language and standard library usage.
- [TeX](#) Expert in (markup) language.
- [HTML, CSS](#) Average experience.
- [GLSL](#) Very good experience in language and library usage.
- [HLSL](#) Some experience; mainly via Unity. It's basically the same as GLSL.
- [CMake](#) Expert in language and library.
- [JavaScript](#) Some experience; but it's prototyped and dynamic like Python, so easily learned.

## 🗨 Programming Miscellaneous

- [Methodologies](#) agile, waterfall.
- [Design Patterns](#) object-oriented, functional, data-driven, factory, abstract factory, lazy initialization, singleton (but don't ever use this!), RAIL, facade, flyweight, command pattern, iterator, the none object, the visitor, thread pool, locking and joining, consumer-producer, strategy pattern, loose coupling, curiously recurring template pattern, substitution-failure-is-not-an-error.