

# RESUME

TOM OLSSON  
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## EDUCATION

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**Robotics and Intelligent Systems (MSc), Örebro universitet** Autumn 2015 - ongoing  
Education topics: Robotics and intelligent systems, Advanced artificial intelligence, Sensors and sensing, State-of-the-art machine learning.

**Computer Engineer (BSc), Örebro universitet** Autumn 2012 - Spring 2015  
Education topics: Programming (C, C++, C#, Python, Java, Matlab), Artificial Intelligence, Multi-agent systems, Real-time systems, Programming methodology, Mathematical analysis, Mathematics in 3 dimensions, Multi-variable systems, 3D-graphics, and so on.

**Bachelor's Thesis:** I conducted my thesis project at **DICE**, on a project related to compression of dynamic lighting information for a game world. Using both novel and standard methods more than 90 % size reduction was achieved. The full thesis can be read at [http://www.tomolsson.se/?attachment\\_id=164](http://www.tomolsson.se/?attachment_id=164).

## WORK EXPERIENCE

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**Nolato Silikonteknik AB** (Juni 2013 - Aug 2013)  
Machine Operator. Worked with a hot-moulder in production of EMI-shielding silicone gaskets.

**Lärorikt Karin H Olsson** (Sep 2012 - Dec 2012)  
Microsoft Office educator. Teaching basic usage of Microsoft's Office package for classes of 8-12 students in labour market measures.

## PROJECTS

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|--------------------------|--|
| <b>TimeKeeper</b>        | (2015) A REST-based application which aims to deliver ``check-in"-based time-tracking. The main intent of this project is to explore the possibilities of creating an app where the critical paths in operation are 0-length. Not public.                      |
| <b>2D game</b>           | (2015) A multiplayer game based on Paper Soccer written in Java. The game can be played via a local network or the internet against other human players or bots.   |
| <b>Advanced graphics</b> | (2014) Implementing both a ray tracer and an advanced OpenGL renderer in two projects. The ray tracer had CSG, transparency and shadows. The renderer used dynamic tessellation and instancing to create a purely procedural world.                            |
| <b>3D game</b>           | (2014) A game-engine as well as an actual strategy game using the engine. The game is (being) developed in C++ together with OpenGL for cross-platform support.  |
| <b>Robotics/AI</b>       | (2014) A hybrid artificial intelligence system implemented on an e-puck. The system was used for path finding in a limited area, with dynamically changing obstacles. The hybrid used fuzzy logic to combine Sense-Plan-Act with reactive collision avoidance. |
| <b>Electronics</b>       | (2013) A battery-powered guitar amplifier with volume controls and distortion.   |

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## ENGINEERING

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### Goals

- To contribute to a development where technology will bridge gaps rather than create them, and where technology itself contributes to a more equal and solidary society.
- To create technology and software that is usable and available for everyone from an economic, social and educational perspective.

### Why engineer?

My interests for technology and the hunger for knowledge was what first took me into the world of science. At the early age of ten I had already learned to program in Object Pascal and programmed my first game. As I grew up this programming knowledge gave me the ability to critically look at the digital tools that I use daily.

Often has this question as to *why* technology works a certain way been answered with *because*. In almost all situations that is a bad answer. Even though technology is becoming easier to use it is most often achieved by limiting the products and alienating the user. I want to change that.

## GENERAL

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### High-school, Science program, Bergslagsskolan

(2008-2011)

I graduated from high-school with a score of 18.6 points (out of 20 possible) and was granted several scholarships for excellent results.

As my project work during last year of high-school I developed the aforementioned chat program in Java, while at the same time researching agile and object-oriented programming.

### Högskoleprovet

(Swedish SAT, max 2.0)

Spring 2011	1.8
Autumn 2013	1.95

### General skills

Office package	Excellent
LaTeX	Excellent
Driver's license	Yes

### Languages

Swedish	native
English	fluent, professional
German	intermediate

### Recreation

**Societies:** For a long time I was a youth leader for a local canoe-racing club called Bofors Kanotklubb in my hometown. Today I am primarily engaged in the Socialdemocratic party, where I have both political and internal commitments.

**Music:** I have created and enjoyed music all of my life, starting at the age of ten with drums and then continuing with piano, guitar and electric bass. As a musician, I have released a single, recorded four demos, and done several live performances.

**Writing:** As part of my political engagement I've taken an interest in the art of writing concise and communicative texts.