

Sebastian Nilsson



Engineer and software developer

+ CONTACT

| | |
|---------------|--|
| Address | Karl Gustavsgatan 45, 41131 Gothenburg, Sweden |
| Telephone | +46 737614437 |
| Email | me@sebastiannilsson.com |
| Website | http://sebastiannilsson.com (a blog with projects and more information about me) |
| Nationality | Swedish |
| Date of birth | January 2, 1989 (28 years old) |
| Gender | Male |

+ WORK EXPERIENCES

| | |
|--|--|
| 2014-now: Software design engineer at Cpac Systems | 2015 to now: Employed at CPAC Systems AB, Gothenburg as a Software Design Engineer. Mainly working with marine control electronics (Volvo Penta Electronic Vessel Control and Yamaha Helm Master). |
|--|--|

Projects at CPAC Systems:

Late 2016 - now: Developing a new product. I am working both with high level app development for iOS and Android, as well as low-level embedded programming. The app development is done using Xamarin C#, and the embedded programming mostly consists of C writing and RTOS configurations.

Late 2016 - now: Automated build environment. I automated a large portion of the build environment for CPACs marine segment. Software releases used to take a day to build, package, refactor, document and archive. With the help of python scripts and Jenkins Continues integration (CI), the same job can now be done in about 30 minutes. Releases are then sent to be automatically tested in HIL rigs.

Late 2016: Prototyping new application features for Volvo Penta. This project included system engineering, software programming, simulating boat tests and performing real boat tests in the end of the project.

Mid 2015 - Late 2016: System design, control theory and writing embedded C code for outboard boats involving autonomous functions. I was part of the team developing control algorithms for continuously adjusting drive angles and propulsion forces to move the boat in a desired way.

Mid 2015 - Late 2016: Boat simulator for testing marine control software. Since most of the software needs to be tested in boats I made a simple boat simulator for testing software early in the development. Unity3D engine was used for generating computer graphics, C# code for vehicle dynamic simulations and python scripts for interfacing between the hardware (CAN network) and the simulation.

Mid 2014: Writing embedded C code for gateways and interfaces. For example, dongles that makes third party autopilots communicate with the steering control unit in a boat.

June 2014 - Late 2014: Writing software and configuring hardware for automatic testing of Electronic Control Units. Basically, connecting the essential control units for running a boat to the same system, and writing automatic test cases that perform hardware-in-the-loop (HIL) tests.

January 2014 - June 2014 (not including lead time at the university): My project

partner and I made a proof of concept system for a remote control to be able to drive a truck, from outside of the truck. The project included investigating wireless technology, safety aspects, designing and building PCBs, designing and building mechanics for the remote control device, systemizing the whole system and writing embedded code. Simulink was used to glue it all together.

2007-now: Treplex (self employed)

Private enterprise with [Treplex](#). I started with design, but with time moved myself closer to assignments in programming and database development. While studying at university, this private enterprise was my primary source of income. However, since I got employment at Cpac Systems, I only take on smaller projects.

2011-2012: CTO at Miseto AB (startup)

It started with an idea for better web analytics tool and together with two other people we started and ran Miseto. Experiences that I got as an entrepreneur includes how to run a startup, priority conflicts and the importance of early positive cash flow. As an employee, I was responsible for database- and web development and learned a lot about how to build database-driven services.

+ OTHER ENGINEERING EXPERIENCES

2013-2014: Formula Student

My most valuable project experience during Chalmers was as a Project Engineer at Chalmers Formula Student, where I was responsible primarily for the design and manufacture of the electrical system in the race car. The following year, I joined a management course and went on to be one of the leaders that helped the new team to achieve the same success as we did.

+ EDUCATION

2008 - 2015

M.sc. in System, control and mechatronics

Chalmers University of Technology

Bachelor in Automation and Mechatronics

+ LANGUAGES

Mother tongue

Swedish

Foreign languages

English

Proficient and with an IELTS Band score 8/9.

<https://takeielts.britishcouncil.org/find-out-about-results/understand-your-ielts-scores>

+ SOFTWARE SKILLS

Operating systems

Windows, OSX (and some Linux).

CAD

Catia and SolidWorks

ECAD

Kicad and Altium

Web

HTML5, CC3, PHP, javascript, jQuery, SQL, Python

Design

Basic knowledge in most of the Adobe products.

+ PROGRAMMING LANGUAGES

Machine oriented / embedded programming

- C: This is where I have done most programming.
- C++: Comfortable but not as proficient compared to C
- Arduino: Lots of projects and proof-of-concepts.
- Assembly: Basic understanding and mostly used when debugging troublesome code.

Object oriented

Java and C# with a preference towards C#. I feel comfortable with both.

Scripts

- Python: My goto language for automating boring and time consuming tasks.
- PHP: For everything web related. Over the years I have written quite a lot of

web sites in PHP.

- Matlab/Simulink for academic projects during my university studies.
- HTML5, CSS3, PHP, Javascript, JQuery. I have used these technologies in many projects over the years.

Web

+ PROFESSIONAL HIGHLIGHTS

I am inventor in a patent pending innovation for Volvo's portfolio, and I am also co-inventor on two pending patents with Yamaha. All three patents are filed but not yet public documents.

+ OTHER SKILLS AND HOBBIES

I am a rather good badminton player and have an interest in motor racing (as a youth I did gokarting and car racing).