



# Salvatore Tomaselli

## Curriculum Vitae

### Education

- 2011–2013 **Msc Computer Systems and Networks**, *Chalmers tekniska högskola*, Göteborg, Sweden, *GPA 4.2/5*.
- 2007–2011 **B.S. Computer science**, *Università degli studi di Catania*, Catania, Italy, *GPA 110/110* with honors.

### Publications

Title Towards Lightweight Logging and Replay of Embedded, Distributed Systems  
Authors Salvatore Tomaselli, Olaf Landsiedel  
Description In this paper we introduce MILD; providing Minimal Intrusive Logging and Deterministic replay.  
In ASCoMS 2013  
proceedings

Title LibReplay: Deterministic Replay for Bug Hunting in Sensor Networks  
Authors Olaf Landsiedel, Salvatore Tomaselli, Elad Schiller  
In EWSN'15  
proceedings

### Masters Thesis

Title Debugging Wireless Sensor Networks with Incremental Snapshots  
Supervisor Professor Olaf Landsiedel  
Description This thesis introduced a tool to capture event from a wireless sensor network, where nodes use TinyOS, and allow deterministic replay of the network inside a simulator.

### Bachelor Thesis

Title Sviluppo di server web e sistema di caching per contenuti dinamici  
Supervisor Professor Giuseppe Pappalardo

Description This thesis was focused on the implementation of an HTTP/DAV server that can cache and invalidate server-generated responses, leading to greatly reduced IO and CPU loads.

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## Experience

- 2016- **Senior Software Engineer**, *AppGate*, Göteborg, Sweden.  
The product I work on, is a VPN solution that comes with advanced permissions. The solution includes clients, and an appliance.  
The product runs on a custom Ubuntu based distribution, on which I work on. There is a daemon in charge of converting user settings to configuration and I work on that too.  
I also do general back-end work for the internal testing solutions and for the linux clients.
- 2014-2015 **C++ Software Engineer**, *Minerva Networks*, S. G. La Punta, Italy.  
The company, US based, sells software and hardware solutions to content providers, to provide live programs or download on demand.  
The C++ team provides a scalable and geolocated version of the backend API.  
My role included the integration of Elasticsearch within the API, to provide the devices with full text search and filtering. I also contributed to solutions to deploy and manage clusters.
- 2013-2014 **Backend Python Developer**, *Duego*, Göteborg, Sweden.  
The position involved writing and maintaining a REST API in Python for the clients to use, and managing the servers (production and staging).  
The API code was based upon different technologies: Flask, Redis, Elasticsearch, MongoDB. For the staging and production environment I had to work with AWS, autoscaling, Jenkins, Saltstack, graphite, New Relic and several tools that were developed in house.

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## Notable free software projects

- typedload A library to load json data into Python typed data structures.  
It is used to enable mypy to statically check code which loads data into dynamic datatypes (list, dictionary) making sure it conforms to certain static types instead.  
<https://github.com/ltworf/typedload>
- Relational Relational, a relational algebra parser/compiler/optimizer, used in academia and as educational tool. Implemented in Python  
Can compile relational algebra to Python, and perform some optimizations on the parse tree. It provides a GUI for ease of use.  
<http://ltworf.github.io/relational/>
- lapdog C++ daemon that uses ICMP+ARP to generate events upon appearing/disappearing of network devices.  
<https://github.com/ltworf/lapdog>
- weborf A HTTP/DAV server, implemented in C.  
<http://ltworf.github.io/weborf/>
- Canary Dynamic library to monitor for heap overflows, implemented in C.  
<https://github.com/ltworf/canary>

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## Skills

- Languages In order of experience: Python, C, C++, nesC, Java, JavaScript, Haskell, PHP
- Databases PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch

Frameworks Django, Qt5, Flask  
Software Debian, GNU Autotools, Git, SaltStack, Jenkins, unittest  
Technical Experience in making C code work on various POSIX platforms; using pthreads, atomic operations, networking.  
Programming on embedded systems, asynchronous or event-based.

## Contributed to

Subsurface The only divelog available on Linux systems.  
I wrote a functionality to export the logs on a website I made and some other contributions and translations to Italian.  
Debian At the present time I am a Debian Maintainer (DM).  
I maintain mostly packages in C and Python; the most used of them is xinetd.

## Languages

Italian **Mothertongue**  
English **Fluent**  
French **Basic**  
Swedish **Very basic**

## Interests

- Bass guitar
- SCUBA diving
- Electric guitar
- Board games
- Literature

## Other

I am physically disabled, and I am mentioning it because some countries have specific legislation.