Mario Theuermann

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EDUCATION

UNIVERSITY OF TECHNOLOGY
BS in Software Development
Graz, Austria

BS degree program:
Software Development & Business Management (F 033 524)
Currently writing BS Thesis | Sem. 7
Expected grad. Mar 2018

WIMO
University entrance exam
Klagenfurt, Austria
Grad. Jul 2014

SKILLS

Languages:
C • C++ • Java • Javascript • Python

Tools:
Git • Vim • z3 • KLEE • Docker
various Unix Tools

Libraries:
numpy • sciPy

Databases:
SQL

Communication:
english (C1-level) • german (native)

WORKING EXPERIENCE

IAIK | Intern
Institute of Applied Information Processing and Communications
Aug 2017 – Oct 2017 | Graz, Austria

- The goal of my internship was to fully encrypt the system memory of a SoC emulation using QEMU.
- Used yocto to create my own linux distribution from scratch.
- Customised linux system for the Xilinx Zynq7 SoC with ARM architecture.

LAM RESEARCH | Electrical Engineer
Sep 2012 – Sept 2014 | Fremont, CA & Villach, Austria

- Gave assistance in assembly of a complete new LAM platform prototype design and electrical environment in pilot clean department in Fremont, California.
- Support engineering activities such as design, test, modification, fabrication and assembly of prototype electro mechanical systems and experimental design circuitry.
- Attendee in feasibility studies and testing on new and modified designs.
- Structured diagnostic and troubleshooting in a wide spectrum of hardware, software and networking needs.

LAM RESEARCH | Electrical Engineer
Oct 2010 – Aug 2012 | Villach, Austria

- Electrical assembly of LAM platforms. Basis was the configuration and documentation (e.g. production schedule, mechanical drawings, wiring diagrams, internal test record).
- Electrical assembly of special customer requests.
- Involved with setting up motion devices and therefore executing software tasks.

SEZ & LAM RESEARCH | Test Engineer
Sep 2006 – Sept 2010 | Villach, Austria

- Basically: acquired the basics for further challenges within this company.
- Worked as temporary worker (different companies for provision of personnel).

SEZ AG | Apprenticeship Mechatronics Engineer
Sep 2002 – Mar 2006 | Villach, Austria

- Apprenticeship in Mechatronics.
- Combination of electrical, mechanical and computer science skills.
- Graduate with good success.

COURSEWORK

UNDERGRADUATE

Data Structures & Algorithms
Object-oriented Analysis & Design
Software Maintenance
Computational Intelligence
Computer Vision & Graphics
Systems Programming
Operating Systems
Information Security & Networking
Industrial Sociology
Project Management
Business Administration

POSTGRADUATE

Verification & Testing

INTERESTS

PROFESSIONAL

IT-security • cryptography
embedded systems • virtualization
operating systems • different distributions
emulation • various package managers
computational intelligence

PERSONAL

Music:

Expressing my love to music through extravagant and overly priced headphones while actively blocking out the remaining world around me.

Sports and Health

Thanks to my mostly sedentary profession I enjoy keeping my body energetic and dynamic through strength training.

Nature:

Coming straight from a mountain in Carinthia, I get a kick out of fresh air in a quiet and natural environment.

HANDLES

Telegram:// **theuema**
Xing:// **xing.to/theuema**
LinkedIn:// **at.linkedin.com/in/theuema**
Github:// **github.com/theuema**
Twitter:// **@mariosellus**

RECENT EXPERIENCE

2018: Verification & Testing

In this course we used *Static Analysis* and *Hoare Logic* to find possible bugs in a specific source code. We also had to automate identification of deadlocks running two threads continuously. Heard about BFS & DFS in context of the *Java Path Finder*.

2017 / 2018: BS Thesis

My thesis and practical work is about simulating a modern last level CPU-cache behaviour using QEMU. It will be possible to customize the cache in terms of cache line replacement policy, cache size and timing. The goal is to quickly and efficiently simulate side channel attacks on emulated hardware.

2017: Introduction to Information Security

By taking this course I completed a challenge called *C Security Challenge*. The goal was to exploit pre-written code (C & C++) changing its behavior to get a flag placed in an area that should be protected from not permitted access (CTF).

2017: Distributed Systems

Implemented a distributed system that uses message channels and message queues to perform distributed calculations. Therefore, gained experience in client/server logic, websocket technology and javascript.

2016: Operating Systems

A group-project to realize a small operating system called *SWEB*.
Main parts: Use and implement functions nearly similar to POSIX standard; Implement multi-threading compatibility; Implement memory management;