NIELS REIJERS

Lead / Senior Software Developer

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Over 25 years experience in both commercial and research IT environments.
Lead developer on large projects. Designed and implemented multiple systems from the ground up.
PhD in computer science from National Taiwan University. Published in the field's top conference.

EXPERIENCE

Lead / Senior Software Developer

DSW Health Insurance

Apr 2005 – Ongoing Schiedam, The Netherlands

Oversaw the development of the new claims processing system as lead developer.

- Delivered on time, running reliably for 13 years and proven to be very maintainable, despite being the company's most complex system.
- Produced several spin-off products that became a company-wide standard for other teams, leading to improved efficiency and standardization.

After moving to Taiwan in 2009 to study Chinese and pursue a PhD, I was granted the opportunity to come back to work as a senior developer for several months every year. This privilege was not typically offered to other employees, and I am grateful for this flexibility.

- Worked on and built many different systems, often with a focus on performance tuning.
- Initiated two high-impact projects:
  - The development of a system for company-wide monitoring of service calls. This provided valuable and previously unavailable real-time insight in the behavior and performance of their systems.
  - Identified a problem with the growing complexity of the deployment system. On my suggestion this was changed to an XML-based 'convention over configuration' solution. This improved maintainability and reduced the burden for developers, who no longer have to write deployments scripts.
- Rebuilt a database conversion that an external party had been working on unsuccessfully for months. My implementation took 1 week to build and ran in minutes rather than hours. This allowed us to convert our data in an acceptable time frame and the project to go live.

C# | MS SQL Server | PowerShell | Python | Jupyter

Doctoral Candidate

Intel-NTU Connected Context Computing Center

Sep 2011 – Apr 2018 Taipei, Taiwan

- Developed a Java Virtual Machine for resource-constrained Internet-of-Things devices such as the Atmel ATMEGA128.
- Implemented on-device ahead-of-time compilation to native code to drastically improve performance compared to existing VMs in this class, which are one to two orders of magnitude slower than optimized C.

Improved the state of the art by:

- Improving performance to close to optimized C and thus reducing energy consumption, while maintaining platform independence.
- Providing a safe execution environment to protect devices from buggy or malicious code, at a cost comparable to existing native code solutions.

The results were published in SenSys 2018, the field's top conference.

C | Embedded systems | AVR assembly | Java | JVM bytecode

SKILLS

Critical thinking	●●●●●
Problem solving	●●●●●
Perf. analysis and optimization	●●●●●
SQL (mainly MS SQL)	●●●●●
C, C#	●●●●●
Teamwork	●●●●○
Embedded systems	●●●●○
Scientific writing	●●●●○
Data analysis	●●●○○
Goalng	●●○○○
Python, Java, PowerShell	●●○○○
Machine learning	●○○○○
HTML, CSS	●○○○○

EDUCATION

Ph.D. in Computer Science

National Taiwan University, Wireless Networking and Embedded Systems Lab

Sep 2011 – Apr 2018 Taipei, Taiwan

"CapeVM: A Fast and Safe Virtual Machine for Resource-Constrained Internet-of-Things Devices", graded A+.

M.Sc. in Computer Science

Delft University of Technology, Parallel and Distributed Systems Group

Sep 1995 – Jun 2002 Delft, The Netherlands

"Location tracking and group communication in FLARE", graded 9/10.

Research done at the Distributed Systems Group in Trinity College Dublin.

LANGUAGES

Dutch	●●●●●
English	●●●●●
Mandarin Chinese	●●●○○

INTERESTS

- Cycling, 5k runner
- Beginning Vipassana meditator
- Art
- Volunteer at the Rotterdam International Film Festival, before moving to Taipei
- Taiwanese History
- Prefers CDs over vinyl or streaming
- Led the winning company team in the 2013 Delft University of Technology programming contest