NIELS REIJERS

Staff / Lead Software Engineer

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

EXPERIENCE

Senior Software Engineer
Proton Mail
Aug 2024 – Ongoing
Taipei, Taiwan

Traffic Analysis & DDoS Protection:
- Maintained and improved ClickHouse-based traffic analysis pipelines.
- Increased DDoS mitigation capacity roughly 5-fold by isolating it from heavy analytics.
- Improved anomaly detection for early issue detection through automated root-cause analysis.

AI Agentic Framework: Main contributor on an AutoGen-based infrastructure for task automation, including LLM interfaces, agent and prompt design.

Python | ClickHouse | Datadog Vector | AutoGen AI | vllm

Staff Software Engineer
DSW Health Insurance (contract)
Jun 2011 – Apr 2025
Schiedam, The Netherlands

After leaving DSW to study Chinese and pursue a PhD, I was given the opportunity to combine this with contract work, from 2016 as Staff Software Engineer. This privilege was not typically offered to other employees.

- Designed, implemented and worked on many different systems myself. Ad hoc troubleshooter or contributor on many others.
- Often focussed on automation, observability and performance optimization.
- Initiated high-impact projects, including:
  - Company-wide service call observability which provided valuable and previously unavailable real-time insight into the systems' behaviour.
  - Converting the deployment system from script-based to a 'convention over configuration' solution. This improved maintainability and stability, and reduced the burden on developers.

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

Postdoctoral Researcher
National Taiwan University / Academica Sinica
Feb 2019 – May 2021
Taipei, Taiwan

Collaborated with professor Chih-Wen Hsueh at NTU on a novel block chain, and professor Yuh-Jye Lee at Sinica on a project to correct online disinformation.

Doctoral Candidate
Intel-NTU Connected Context Computing Center
Sep 2011 – Apr 2018
Taipei, Taiwan

Improved the state of the art for Java VMs for resource-constrained IoT devices:
- Improved performance to close to optimized C, thus reducing energy consumption, through on-device ahead-of-time compilation to native code.
- Provided a platform independent and sandboxed environment to protect devices from malicious code.

Published the results in the field's top conference, SenSys 2018.

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

Lead Developer
DSW Health Insurance
Apr 2005 – Nov 2009
Schiedam, The Netherlands

Lead the development of the new claims processing system as lead developer.
- Delivered on time, running reliably since 2009 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.

C# | MS SQL Server

SKILLS

Critical thinking / prob. solving	●●●●●
Perf. analysis and optimization	●●●●●
Python	●●●●●
C#	●●●●●
SQL (MS/ClickHouse/MySQL)	●●●●●
Teamwork	●●●●○
C / Embedded systems	●●●●○
Agentic AI systems	●●●○○
Functional programming	●●●○○
Java, Golang, Rust	●●○○○
HTML, CSS	●○○○○

EDUCATION

Ph.D. in Computer Science
National Taiwan University
2011 – 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
1995 – 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
- 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