Gijsbert **ter Horst**

Software Developer

personal

sex
Male
birth-date
March 25th 1991

contact

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languages

(native) Dutch
English
Norwegian
(poor) German
(worse) French

programming

Typescript
C# 12
Angular 17
MongoDB 7
Javascript
Python 3
C
SQL
Lua
PHP
Java

software

LaTeX2e
Visual Studio Code
Git
GIMP
Inkscape
Dia
Blender
FreeCAD
PrusaSlic3r
LibreOffice
Audacity
Handbrake
Arduino IDE
Armitage
Wireshark
Aircrack-ng
QLC+

hardware

Custom desktop
Raspberry Pi's
Prusa 3D printer

operating systems

Debian
Ubuntu
OSMC
Raspbian
Alpine
Historical:
LMDE
Linux Mint 13
Ubuntu 9.10-11.04
Windows 7

education

2009–2018 **Student** Computer Science — University of Twente, Enschede

2002-2008 **VWO** N&T+N&G, Informatics, Latin — Bonhoeffer College Bruggertstraat, Enschede

experience

2016–now **Intar B.V.** — Enschede, Netherlands
Software developer — full-time
We create conneqt an IoT enabled low-code platform that makes it easy to automate complex processes for the non-technical end-user. (More below)
Seconded to Sigmax for more than a year for SQL queries, OAuth2 integration, AngularJS refactoring and optimisation, AngularJS to Angular rewrite, etc.
Both for Sigmax and for contracted work at Intar I worked for government municipalities mainly related to parking-permits and -exemptions.

2014–2016 **Controllab Products B.V.** — Enschede, Netherlands
Software developer / system administrator — part-time

- Implemented evaluation version of coupling between 20-sim and Matlab through Apache XMLRPC + Matlabcontrol.
- Created GCAT Evaluation, a test suite that *dynamically* verifies the correctness of C-code generated by 20-sim.
- Fixed several issues in 20-sim C-code generation that were detected by GCAT.
- Research on the possibilities of static analysis of the C-code generated by 20-sim, focused on MISRA C compliance.
- Automated tracking of issue tracker statistics, calculates and graphs related ISO9001 KPIs over time.
- Set up centralised user account system using Samba on redundant-failover Debian servers. This provides employees with one account that can login to both the windows and linux machines in the company.
- Set up groupware servers for e-mail and calendar, including e-mail virus scanning and spam filtering that adapts based on e-mails employees move to/from their spam folder.

2012–2017 **University of Twente** — Enschede, Netherlands
Undergraduate Teaching Assistant — zero-hour contract
Teaching, examining, and grading students.

- Operating Systems in 2012 & 2013
- Databases in 2013
- TOM: Data & Information in 2014
- TOM: Operating Systems in 2014–2016

Twente Academy/Pre-U: Educational developer and teacher
Pre-U (formerly Twente Academy) is the university's pre-university college.

- Developed and taught of Masterclass Hacking in 2013–2016
- Guidance of secondary school final projects in 2014–2017
- RED Engineers Challenge, primary school guest teacher in 2014

2012–2019 **Personeelsservice Nederland B.V.** — Enschede, Netherlands
Stock-taker — zero-hour contract
Pays legal minimum wages, part of the company revenue is paid to charities.

2009–now **THICT** — Boekelo, Netherlands
Owner
My own company, which is dormant right now.

- 2017: Developed a central heating system leak testing machine for Emergo Hout & Bouw B.V.
- 2010: Developed two machine interfaces for Beun- De Ronde B.V.
- Helpdesk and troubleshooting
- General IT advice (hardware, software, licensing, legal)

2007–2019 **DWN** — Netherlands
Volunteer — zero-hour contract
No wages, the company gives directly to charities for every hour worked.

- Technician at De Oude Usselerschool
  - Audio, video & stage lighting
  - Maintenance of technical facilities
  - Replaced analogue (PAL) video system with digital system in full HD.
- Stock-taker
- Minor jobs: cleaner, construction worker, crew marathon Enschede

2013–2014 **Bonhoeffer College location Bruggertstraat** — Enschede, Netherlands
Computer Science teacher — internship
A year later one of the computer science teachers who mentored me during the internship left, and I was offered the post. I had to turn down the offer at that time.

2008-2009 **PSS Development** — Stadskanaal, Netherlands
Software Engineer — full-time volunteer through A-Team Pagedal

- C# ASP.NET web applications
- T-SQL databases, design and coupling to legacy systems

publications

2018 **Bachelor's thesis** — Proceedings of the 29th Twente Student Conference on IT
LoRa Passive Positioning: Analysis of the effects of various parameters on performance

awards

2013 **Cake** — University of Twente, 19th Twente Student Conference on IT
Cake for *Best Poster and Explanation* for team project: Solver for GearSketch

2018 **Nomination** — University of Twente, 29th Twente Student Conference on IT
Nominated for Best Paper for bachelor's thesis

history

My first IT-job involved websites using C# ASP.NET and T-SQL in 2008. But when I started my studies, I left the .NET world behind. I had to use Java. It was easy, and portable, but writing it felt clunkier than C#. I learned Python 3 in my spare time, and liked the language quite a lot. It's still my go-to language for heavy number crunching and image recognition & transformation. I also ended up writing a quite some C. I wrote educational exercises for students, tooling to interface with machines and microcontrollers, and extremely low-level security tooling in ARM assembly. I also learned some PHP, but almost exclusively in the context of finding and fixing security holes in poorly constructed websites.

In 2009 I dual-booted Ubuntu for a network security experiment, and two months later I realised I hadn't booted Windows since. I've gradually moved from Ubuntu to Debian, and now I'm quite comfortable managing multiple linux-based systems. Both professionally, and private, e.g. my Desktop (Debian), VPS (Ubuntu), NAS/Media centre (OSMC) and 3D printer (Raspbian).

I tried to graduate in security but soon realised that in security, especially when it comes to academics, only one-level exists: The very best. Everyone below that level is always behind, and in security that means irrelevant. I *might* have been able to make it, but I wasn't willing to commit to that level. I never was *only* a software hacker.

During the latter part of my studies I worked for Controllab mainly building the next generation groupware servers for the company, automating business process monitoring and rewrote their customer facing Python API.

In late 2016 I got convinced to switch jobs to Intar, and we started to design conneqt. We wondered what we would use to build our platform. In-company most of the experience was in C#.NET and T-SQL. We quickly realised that SQL was not a good match for our software, and we didn't want to be stuck to Windows by using .NET Framework.

The timing was perfect, .NET Core, Angular 2 and Visual Studio Code were all released around that time and we decided to take our chances and use that. Me on a Debian machine, and my colleagues on Windows (and later MacOS too). It worked beyond our expectations. Since then we've built conneqt from nothing to the platform it currently is.

We use Github, CircleCI, JIRA, Render and MongoDB Atlas and integrate with a host of online APIs such as Microsoft Graph, RDW, BAG, Sendgrid, Carbone etc. We started in .NET Core 1.0.1, Angular 2.4, MongoDB 2.4, added a Xamarin App, later ported to MAUI.NET, and currently we're up-to-date with the latest versions of the technology we use, with *very* little technical debt.

communication skills

software: With design experience in software teams I am well versed in the discussions around design choices. I can explain and defend my choices, and accept when the final design will not be as I envisioned.
client wishes: I have done some work for my own company where I discuss the client's wishes with them. When I did live A/V work for parties, weddings or funerals I asked the client their wishes, and show what I can do for them. In written communication, I am proficient in both Dutch and English at various levels of formality from poignant memes on Discord up to EULAs and privacy policies.
education: With various jobs in education, I have experience in how to present information in a way that improves clarity and facilitates understanding, without undermining the factuality or accuracy of the material.
accuracy: When contracted for government municipalities I have seen how messy things get when the meaning of texts is eroded in a bid to be more accessible to every civilian, and the editors forget that such government publications are legally binding in the Netherlands. In those cases it is vital to be correct, *if necessary* at the cost of ease of understanding.
accessibility: As noted above, government communication editors focus on the texts they send the citizens, and how the e-mail looks. The end-result looked correct, and this was fine for printed letters, but the underlying code often was a mess. I then transformed those texts into strictly semantic HTML, such that the e-mails based on those templates not only looked correct, but could be understood by assistive technology such as screen readers and braille-displays.
print production: Though not particularly talented at graphical design, I have some insight into the process of transferring digital media to print, using free tools such as GIMP, Inkscape, LaTeX, etcetera. With the rise of generative AI, these skills have become unexpectedly more relevant. The AI can provide artistry to non-artistically skilled users, but it cannot (yet) provide the link to production of the generated works.

interests

professional: internet of things, information security, system security, UNIX-like operating systems, computer hardware, software, FOSS software, software licenses, information law, source management
personal: books (fantasy, sci-fi), hacking hardware and software, GNU/Linux, Raspberry Pi, rocket science, 3D-printing, and many other things
religious: Brunstad Christian Church