



# Ruben van Nieuwpoort

Software developer

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## About me

Analytic with a broad interest in technical topics. Passion for learning and teaching. Thrives when working in a small, multidisciplinary team in a stimulating environment.

## Skills

Technology

Proficient in **C**, **C++**, **C#.NET**, **Python**. Experience with assembly languages (**x86**, **ARM**, **TriCore**).

Frontend

Experience with **HTML**, **CSS**, **JavaScript**, **TypeScript**, various frontend frameworks (**Vue**, **Angular**, **React**), and **Azure**.

Hardware

Familiar with **VHDL**, and communication protocols like **UART**, and **SPI**.

## Work history

April 2023 - Current

Infi, Utrecht  
*Software developer*

Infi is a software consultancy company that makes apps and web applications.

Sep 2020 - Dec 2022

Optiver, Amsterdam  
*Software developer*

Optiver is a high-frequency trading firm operating worldwide.

### *Compliance tech*

The compliance tech team develops and operates applications to automate and assist with compliance tasks, including recordkeeping, surveillance, and reporting.

- Set up a new SFTR reporting pipeline for a new clearing bank
- Developed a new application to detect trades in sanctioned instruments

### *Options research & data*

The options research and data team is responsible for the data used by research and trading. In particular, I was responsible for a distributed high-throughput system that calculates trade metrics, which are heavily used by trading and research to analyze trades.

Jun 2019 - Aug 2020	<p>Altium TASKING, Amersfoort <i>Software developer</i></p> <p>TASKING develops tools for programming for embedded systems.</p> <ul style="list-style-type: none"> <li>• Worked on a C compiler for the ARC architecture</li> <li>• Set up an automated framework to find compiler bugs</li> <li>• Implemented a framework for monitoring the test coverage</li> </ul>
Oct 2017 - May 2019	<p>Betabit, Utrecht <i>Junior consultant</i></p> <p>Worked at various client as a software consultant.</p> <p><i>Insurance company</i></p> <p>Worked in a multidisciplinary team of actuaries and programmers on the implementation of a model for market value projection.</p> <ul style="list-style-type: none"> <li>• Reduced runtime of shadowmodel tests from 30+ minutes to less than a minute, greatly improving the efficiency of the team</li> <li>• Taught various programming topics to actuaries</li> </ul> <p><i>Electronics retailer</i></p> <p>Worked on the product management system. I helped users and led the technical side of the transition to a new product information supplier.</p>

Apr 2013 - Nov 2014	<p>Utrecht University, Utrecht <i>Teaching assistant</i></p> <p>Worked as a teaching assistant for several courses for the Mathematics and Computer Science curricula. Responsibilities included instructing students and grading homework and lab assignments.</p>
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## Education

Sep 2016 - Dec 2017	<p>TU Delft and Maxeler Technologies <i>Master thesis: "Solving Poisson's equation using dataflow computing"</i></p> <p>Implemented an experimental finite element implementation on an FPGA using Maxeler's high-level synthesis framework.</p>
Sep 2014 - Dec 2017	<p>TU Delft <i>MSc Applied Mathematics</i></p>
Sep 2014 - Dec 2017	<p>TU Delft <i>MSc Computer Engineering</i></p>
Sep 2011 - Jul 2014	<p>Utrecht University <i>BSc Mathematics</i></p>
Sep 2010 - Jul 2014	<p>Utrecht University <i>BSc Computer Science</i></p>
Sep 2004 - Jun 2010	<p>Christelijk Gymnasium Utrecht <i>Pre-university education</i></p>

## Other

Apr 2018 - Sep 2018      New Dutch Connections, Utrecht  
*Voluntary work*

Jan 2014 - Jun 2014      UC Santa Barbara, Santa Barbara  
*Exchange program*

## Hobby projects

### **Reals**

<https://github.com/rubenvannieuwpoort/reals>

Reals is a Python package for arbitrary-precision arithmetic that is designed to be easy to use. It can evaluate mathematical expressions with high accuracy.

### **Vulture**

<https://github.com/rubenvannieuwpoort/vulture>

Vulture is a work-in-progress FPGA implementation of a pipelined RISC-V processor.

## Hobbies

Athletics, bouldering, climbing, playing the drums. Tinkering with operating systems, software, and electronics. Mathematics, reading, writing.