Profile

Name: Nick Swaerdens   Website: nickswaerdens.nl
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          3607 MV Maarssen
Mobile: +31 06-20009259   Recently applied computer science graduate searching for a
E-mail: nick_swaerdens@outlook.com   challenge. Independent, meticulous, motivated, with an
Born: October 29th, 1995, Utrecht   interest in new methods and techniques.

Experience

CIMSOLUTIONS, *Applied computer science pre-graduate intern*   08-2021 – 03-2022
- Researched and designed a time-critical, scalable, and real-time system.
- Selected, prepared, and augmented datasets for the training of a complex deep learning model.
- Critically evaluated, and iterated on, a complex deep learning pipeline for achieving consistent and optimal results.

Abstedecoaching, *Full-stack web developer*, abstedecoaching.nl   2021
- CMS-integrated single-page application written in Nuxt, Vue, NetlifyCMS, and TailwindCSS.

ICR3ATE, *Applied computer science intern*   02-2020 – 07-2020
- Researched, developed, and configured a scalable, voice-controlled system.
- Developed and tested asynchronous functionality for the communication between internal processes and distributed systems.
- Built HTML5 and CSS3 configuration interfaces and functionality for a Node.js-based system.

HansMadeIt Webshop, *Full-stack web developer*, hansmadeit.nl   2020
- CMS-integrated single-page application written in Gatsby, React, GraphQL, NetlifyCMS, and TailwindCSS.
- Developed and tested shopping cart, search bar, and custom PHP mail functionality.

AdsVentures Internet Media, Interaction design intern   08-2015 – 01-2016
Zeo online marketing, Interaction design intern   02-2015 – 07-2015

Education & notable courses

2016 – 2022:   *BSc. Applied computer science*, HU University of Applied Sciences Utrecht.
2020 first semester: *Minor Informatica voor hbo-studenten,* Utrecht University.
2012 – 2016:   *Interaction design*, Graphic Lyceum Utrecht.

Utrecht University
Computer Architecture and Networking, Functional Programming, Logic for Computer Science, Languages and compilers.

HU University of Applied Sciences Utrecht
Research Skills: Methodology, Mathematics & Trends, Object Oriented programming in C++, C++ Programming & Software Engineering, Algorithms and Data Structures, Vision, Computers & Embedded Operating Systems, "Meten, regelen en besturen", Applied Mathematics, Concurrent Systems Modelling, System engineering.

Skills

Languages: Rust, C++, Python, C, Javascript, Typescript, React, Vue, HTML5, CSS3, PHP, ASM (Cortex-M0), Haskell, GraphQL, SQL.
Frameworks: Gatsby, Nuxt, TailwindCSS.
Tools: Git, Cargo, Make, CMake, Webpack, Node.js, Node-RED, UML, NetlifyCMS, Jira.
Design software: Photoshop, Illustrator, InDesign, After Effects, Flash, Google Web Designer.
Other: RTOS, LaTeX, web design, technical SEO, agile software development, remote work experience.

English & Dutch, professional speaking, reading, and writing.

Projects

Rust FastCGI library 2022
Personal project with the aim of mastering the memory-safe programming language Rust. The project focuses on type-safe, efficient network code, and good use of lifetimes, async, and advanced traits. Currently under development.

Academic year 2019-2020
Research semester (1 semester): wrote a research report on brain-computer interfacing, detection of the P300 brain wave using cheap hardware and a small number of electrodes. Emphasis on processing sensitive digital signals, and machine learning for feature extraction and classification. Result software written in Python, using the SciPy, scikit-learn, and Wyrm libraries.

Academic year 2018-2019
Roving Robots & Distributed Devices (1 semester): project where all applied computer science students were grouped to design modules which were combined at the end of the project. The modules switched groups every few weeks to simulate project handovers. This project had a strong emphasis on collaboration, communication, and good use of Git. My contribution was cross-platform C++ network code, and pathfinding algorithm optimization for an Arduino.

Academic year 2017-2018
- Theme Gaming (3 weeks): 2D platform game using the SFML library. Written in C++ with emphasis on smart pointers.
- Theme Devices (3 weeks): C++ laser game with Arduino, OLED, infrared and the nRF24L01+ chip.
- Theme Vision (half semester): C++ Deriche edge detector written using the OpenCV library.

Academic year 2016-2017
Theme IPASS (3 weeks): C++ feedforward neural network.

Interests and additional information

As a recent graduate, I am particularly interested in writing correct, scalable, and idiomatic code. Inspired by Rust, and articles such as "Parse, don't validate" and "The Typestate Pattern in Rust", I'm currently mainly working on type-driven design and typestates to make invalid program values and states impossible at a type level.