

Hielke Walinga

Personal

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About

I started my academic career with the very scientific oriented program of Nanobiology. However, in some courses I discovered I much liked the control of information I could get with a computer, and bridged to Computer Science. Over time I worked on various projects and jobs where I had the opportunity to gap between the chaotic nature of the scientific process and the exact world of software engineering. I find joy in capturing all the undocumented details into structured computer programs.

Education

- 2019/9-2024/5 | **Master's Computer Science | TU Delft**
Data Science Track: Focus on machine learning, algorithms, and bioinformatics.
Master's Thesis | Learning state machines from big log data | S. Verser, Algorithms
Using the power of C++ and PostgreSQL, I worked on a novel machine learning algorithm to learn state machines from big log data.
- 2014/5-2018/11 | **Bachelor's Nanobiology | TU Delft & Erasmus Rotterdam**
Nanobiology contains a combination of physics, mathematics and biology.
Bachelor's Thesis | GWAS of autoimmunity in CRISPR | Brouns lab & Utrecht TBB
Finding self-targeting events in a database of more than 100.000 genomes using mostly Python and Bash.
- 2008-2014 | **Secondary Education csg Bogerman Sneek**
Gymnasium: Natuur & Techniek

Work experience

- 2023/5-2023/8 | **Data engineer**
Genescape | startup advising on targets for novel drug development
Created pipeline in Snakemake that maps out gene variants frequencies for discovery novel drug development. The pipeline pulled data from various databases using a REST API and combined the most important information in an Excel sheet.
- 2020/2-2023/8 | **Software engineer**
Single Quantum | scaleup manufacturing single photon detectors
Developed a Laboratory Information Management System (LIMS) using Django and VueJS for managing and analysis of test data to replace the old system using Google Sheets. Then assisted in rolling out Airtable as the Enterprise Resource Planning (ERP) system and connecting it to existing infrastructure.
- 2019/1-2019/8 | **Research Assistant Bioinformatics | Brouns lab TU Delft**
The Brouns lab is a wet lab research group specialized in CRISPR and microbe bacteriophage interactions. Genome assembly analysis and pipeline writing in the Linux cluster. Assisted with publication of 2 research papers.
- 2015/9-2019/7 | **Teaching assistant | Nanobiology programme**
Assisted with the courses: Electrical Instrumentation, Computational Science, and Bioinformatics.

Extracurricular

- 2017/1-2017/11 | TU Delft D:DREAM Team iGEM
In a multidisciplinary team helped developing an on-site testing device for antibiotic resistant bacteria, using CRISPR-Cas13a. My role involved bioinformatics and taking the lead in building the website.
Awarded with the Grand Prize (overgrad) and 8 special awards.
- 2017/9-2018/8 | Treasurer Stichting SurvivalStrijd Delft
Managed finances of a 800 participant sports event that had doubled its budget.
- 2016/9-2017/8 | Treasurer S.B.V. Slopend (Outdoor sports association)
Implemented the use of an accounting program to manage the increasing number of members.

Tech

Advanced:

Python: Django, Numpy, Scipy, Snakemake, PyTorch

Web: HTML5/CSS3, JavaScript (ES6+), VueJS, Cypress, Bootstrap

Intermediate: Linux (Bash, AWK, Slurm, etc.), C/C++, R, (Postgre)SQL, Airtable

Competencies

Software: Version Control (Git), CI/CD, Software Testing, Documentation, REST API

Computer Science: Datascience, Algorithmics, Statistics, State machines

Bioinformatics: Genome Assembly, Variant Calling, Haplotype Phasing, Genomics, Genetics

Traits

Problem-solving, Results-driven, Collaborating, Precise, Trustworthy, Independent, Perseverant, Helpful.

Hobbys

Boardgames, Simrally, Programming, Reading, Piano, Survivalrun.

Languages

English: Proficient

Dutch: Native

Frisian: Native