Freelance Data / DevOps / Fullstack / Linux engineer

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## About

Eager to create and learn, diligent and always looking to get the job done. Technologies are solely a means to get the job done. Security minded and willing to discreetly address issues.

### Ambition

Love to deepen my experience as a data (platform) engineer and like it when my work incorporates data science, security and writing code.

# Education

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| MSc. | Security and Network engineering | University of Amsterdam | 2017-2019 | &#x1f393; |
| BSc. | Software engineering | Windesheim | 2012-2016 | &#x1f393; |
| Propedeuse | Computer engineering | Windesheim | 2011-2012 | &#x1f393; |
| community college | Mechatronics | Landstede | 2007-2011 | &#x1f393; |

## Certificates and courses

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| --- | --- | --- | --- |
| minor | Artificial Intelligence | University of Amsterdam | 2014 |
| minor | Mathematics | Utrecht University | 2014 |
| minor | Web technology | Windesheim | 2013 |
| cert. | 7 habits of highly effective people | FranklinCovey | November 2012 |
| cert. | Introduction Android Development | InfoSupport | December 2011 |
| cert. | Basic Safety VCA | Cito | February 2007 |

# Knowledge fields

knowledge tree
 +-- Configuration Management CM
 | +-- CI/CD integration, deployment
 | | +-- Azure DevOps November 2019 -> 2023
 | | +-- Gitlab August 2018 -> November 2018
 | | +-- Travis February 2017 -> October 2018
 | +-- Infrastructure as Code IaC
 | | +-- Ansible March 2017 -> August 2019
 | | +-- Terraform November 2018 -> 2023
 | +-- Version Control Systems VCS
 | +-- Git 2013 -> 2023
 | | +-- Gitlab
 | | +-- Github
 | | +-- Bitbucket
 | +-- svn 2012 -> 2013
 +-- containers
 | +-- Docker February 2015 -> 2023
 | +-- LXC March 2017 -> 2018
 | | +-- LXD November 2017 -> 2018
 | +-- Rkt November 2017 -> December 2017
 | +-- container orchestration
 | +-- DC/OS Mesosphere February 2017 -> November 2018
 | +-- Kubernetes June 2018 -> 2023
 | +-- Microservices June 2016 -> 2018
 +-- data
 | +-- cache
 | | +-- Memcache April 2017 -> October 2018
 | | +-- Redis June 2016 -> October 2018
 | +-- data science
 | | +-- D3js 2015 -> April 2018
 | | +-- Python
 | | | +-- Numpy September 2018 -> October 2018
 | | | +-- Pandas September 2018 -> November 2018
 | | +-- web scraping
 | +-- database
 | | +-- MySQL / MariaDB October 2011 -> 2023
 | | +-- NoSQL
 | | | +-- MongoDB July 2016 -> October 2018
 | | | +-- OrientDB March 2015 -> June 2015
 | | +-- PostgreSQL
 | | +-- SQL server 2012 -> 2013
 | +-- formats
 | +-- AMQP / RabbitMQ February 2017 -> 2023
 | +-- JSON
 | +-- XML
 | +-- YAML
 +-- infrastructure
 | +-- FreeRADIUS October 2019 -> December 2019
 | +-- Linux
 | | +-- Alpine Linux 2016 -> 2023
 | | +-- Redhat April 2019 -> August 2019
 | | +-- Ubuntu / Debian 2012 -> 2023
 | +-- OpenStack January 2017 -> February 2017
 | +-- VM
 | | +-- KVM February 2017 -> October 2018
 | | +-- Xen November 2017 -> 2023
 | +-- cloud
 | | +-- AWS Amazon Web Services February 2017 -> November 2018
 | | +-- DNS 2016 -> 2023
 | | | +-- bind September 2018 -> October 2018
 | | +-- Load balancing July 2017 -> September 2018
 | | | +-- HA-proxy March 2016 -> October 2018
 | | +-- Microsoft Azure June 2019 -> June 2020
 | | +-- Reverse / TLS proxy
 | | +-- Apache January 2017 -> September 2018
 | | +-- Nginx 2015 -> 2023
 | +-- monitoring and alerting
 | +-- Elastic Search April 2017 -> July 2018
 | | +-- Kibana
 | | +-- Logstash / grok November 2017 -> December 2017
 | +-- Email
 | | +-- Exim April 2017 -> 2019
 | | +-- smarthost
 | +-- Nagios December 2016 -> November 2018
 | +-- Slack API 2017 -> 2018
 +-- languages
 | +-- Bash February 2015 -> 2023
 | +-- C# January 2013 -> June 2013
 | +-- CSS3 October 2011 -> 2023
 | +-- Go (golang) June 2019 -> September 2019
 | +-- HTML5 September 2011 -> 2023
 | +-- Java April 2012 -> January 2014
 | +-- Javascript February 2015 -> 2023
 | +-- LaTeX 2014 -> 2019
 | +-- Node.js February 2015 -> 2018
 | +-- PHP September 2011 -> June 2012
 | +-- Python February 2017 -> 2023
 | +-- R November 2017 -> March 2018
 | +-- Ruby February 2016 -> May 2016
 | +-- SQL September 2011 -> 2023
 +-- process management
 | +-- SDLC
 | | +-- Agile
 | | | +-- Kanban 2013 -> 2023
 | | | +-- Scrum April 2013 -> 2023
 | | | +-- User stories
 | | +-- Waterfall October 2011 -> 2012
 | +-- documentation
 | | +-- Confluence April 2017 -> October 2019
 | | +-- Dokuwiki 2017 -> 2019
 | | +-- Markdown
 | | +-- draw.io
 | +-- ticketing system
 | +-- Github issue system 2014 -> 2023
 | +-- Jira 2016 -> 2019
 | +-- Redmine April 2013 -> June 2013
 | +-- Trello 2013 -> 2018
 +-- security
 +-- Access control
 | +-- Basic-AUTH May 2017 -> 2023
 | +-- IPTables May 2017 -> 2019
 | +-- Netfilter
 | +-- VPN 2017 -> 2023
 +-- Cryptography
 | +-- Elliptic-curve cryptography (ECC)
 | +-- Public Key Infrastructure (PKI)
 | +-- RSA
 | +-- Secure Socket Layer (SSL)
 | +-- Transport Layer Security (TLS)
 +-- DNSSEC October 2018 -> 2019
 +-- Kali linux February 2018 -> April 2018
 +-- Snort April 2018 -> April 2018
 +-- Wireshark / tcpdump 2014 -> 2019

## Other

AWS S3, Arduino, Chrome extension, DRY Don't repeat yourself, Flask, FreeRADIUS, Hugo, IPv6, IaaS, Internet of Things IoT, JQuery, KISS Keep it simple, Model View Controller (MVC), NFS, OpenSSH, OpenSSL, PaaS, Progressive Web App (PWA), REST API, RFC, SOAP, SSH, SaaS, Unified Modeling Language (UML), Wordpress, back-end, blockchain, data-mining, gcc, integration testing, makefile, routing, unit test, webpack

# Experience

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| role | Senior Data engineer | Vattenfall (energy), Amsterdam |
| timespan | July 2021 -> June 2022, 40h p/w (consultant) |
| desc | Optimize offshore wind turbine maintenance by empowering data analysts with tooling, infrastructure and data, so their predictive models can identify the wear on turbine components. |
| activities | Translate business questions into complex SQL queriesCreating designs for data extraction, transformation and loading (ETL)Configuring JWT authentication using Envoy proxy for web application backendEnabling developers to run VS-code on k8sManaging Cloud infrastructure through Infrastructure as Code (IaC)Enabling GitOps of AKS and DB on Azure Cloud using TerraformData transformation in Python using Pandas |
| techniques | ScrumPythonPandasEnvoySQLApache NiFiAKS KubernetesKustomizeDockerfileLinuxGitKafkaSwaggerPostgreSQLAzure DevOpsTerraformBashREST APIPostgRESTOmniDBMS VisioAzure BlobNginxNexus |

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| role | Data Platform engineer | Tennet (energy), Arnhem |
| timespan | July 2020 -> June 2021, 40h p/w (consultant) |
| desc | Enabled the upscaling of renewable energy sources through the creation of data ingestion pipelines to facilitate data scientist in making predictive models. We developed services that ingested from various sources and wrote to HDFS or inserted into a database, while monitoring them using dashboards and alerting. |
| activities | Improving and stimulating innovation relating to security processes through standardization and automationDeveloping ingestion services using PythonDeploying various services using GitOps to container orchestration platformEnabling GitOps of LDAP enabled Grafana instancesEnabling developers to run VS-code on the DTAP container platformsDeveloping multi threaded Python service to ingest data using NiFiEnabling GitOps of Databases (DaaS)Managing prerequisites ingestion services; ACLs, service user, HDFS, KafkaCreation of dashboards visualizing ingestion metrics using KibanaConfiguration of Filebeat on container orchestration platformDeveloping python package to implement standardized JSON log formatEnabling GitOps of ElasticSearch watchers for alerting to Slack and emailCreating and maintaining internal Python (pypi) packagesDeveloping streaming API in Python between HDFS and HTTP |
| techniques | ScrumPythonDockerfileLinuxCI/CDGitSQLApache NiFiDC/OSKafkaImpalaHueHadoopHDFSOracleSwaggerPostgreSQLJenkinsMesos MarathonELK ElasticSearch Logstash KibanaGrafanaFilebeatKerberosBashPowerShellSOAPWebdavREST APISFTPNexus |

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| role | Cloud Architect | Rabobank (banking), Utrecht |
| timespan | November 2019 -> June 2020, 40h p/w (consultant) |
| desc | As part of the strategic move away from own data centers (DC) to the Cloud, I helped with setting up the infrastructure for the pilot application (Pega) by creating the automated rollout of a kubernetes (k8s) cluster including the application. We were responsible for designing and executing the first migration, in which I directed the implementation of Infrastructure as Code (IaC) using Terraform. |
| activities | Constant evaluation of business value vs. engineer's wishes for technical improvementsDesign of Infrastructure as Code (IaC) environmentIntegrate security principles in IaC, k8s and processesDevelop standards and modules in TerraformOptimize CI/CD pipelines and its templatesAutomate deployment on Azure using Terraform and pipelinesConvert existing installation guide to IaCPerform Database tests as part of selection processDirect the IaC teamAssisting team with Terraform and container questions |
| techniques | ScrumScaled Agile Framework (SAFe)KubernetesTerraformAzure DevOpsPythonDockerfileLinuxCI/CDGitPostgreSQLAzurePega (Java)Infrastructure as Code (IaC) |

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| role | Network engineer | Surfnet (research), Utrecht |
| timespan | October 2019 -> November 2019, 40h p/w (thesis) |
| projecturl | http://tunroam.org |
| desc | Created wireless protocol that allows the creating of secure public WiFi access points by whitelisting VPN traffic. |
| activities | Modifying 802.1x authentication server to support protocolDesign wireless protocolImplement protocol on a Raspberry Pi, making it a wireless Access Point |
| techniques | draw.ioLaTeXFreeRADIUSPythonMarkdownJavascriptGitDebian LinuxDockerBashRaspberry PiOrange PiArmbianOpenVPN |

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| role | DevOps engineer | Rabobank (banking), Utrecht |
| timespan | March 2019 -> October 2019, 24h p/w (consultant) |
| desc | As part of the strategic move away from own data centers (DC) to the Cloud, I rationalized the on premise infrastructure. For this I used Infrastructure as Code (IaC) principles to create a manageable middleware to request resources in their private DC. |
| activities | Strategize transition to containers, to facilitate transition to the CloudResearch options to request resources via ManageIQ using Infrastructure as Code (IaC)Creating ManageIQ Terraform provider using GolangDevelop new readable Terraform modules following AWS syntaxDevelop data parsers in Python for on premise DC managementCreate coupling between DevOps tools and APIsOptimizing existing IaC templates (YAML and JSON)Containerize Pega using Dockerfile (creation of golden image)Creating platform design drawingsAssisting team with Python, Linux, containers, routing and Terraform questionsPresenting insights and designs to teams |
| techniques | ScrumScaled Agile Framework (SAFe)TerraformDockerPythonAnsibleAlpine LinuxManageIQGitGo (golang)SwaggerRedhatBitbucketConfluenceInfrastructure as Code (IaC) |

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| role | DevOps Engineer | Mijndomein (IT), Lelystad |
| timespan | December 2016 -> November 2018, 24h p/w (employee) |
| desc | Automating operations related tasks and implementing new services. Maintaining the uptime of current services; hosting, email, DNS and upgrade internal configuration tools. |
| activities | Developing micro services using PythonEnable and connect services to the RabbitMQ message systemOptimize operations using Nagios, Elastic search monitoring, Slack notificationsMaintenance hosting infrastructureSecurity audit the infrastructureDdos interventionSpam and phising email monitoring and preventionProvide software developers with docker platformOn-call shiftEmail platform maintenanceMaintenance in data center |
| techniques | ScrumKanbanPythonApacheLXCSQLDockerKubernetesDC/OS MesosphereGitEximKVMDebian LinuxAWS EC2RabbitMQPowerDNSHA-proxyOpenStackKibanaDokuwikiCertManager |

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| role | Covert channel researcher | OS3 (education), Amsterdam |
| timespan | April 2018 -> May 2018, 20h p/w (edu. project) |
| desc | Desk research into the possibilities of hiding data in pictures and sharing them on social media. Various social media converted the images (JPG and BMP), destroying the hidden data. |
| activities | Embed data using various stenography toolsContribute to an open source stenography tool on GithubUploading various data containing images and downloading for validation |
| techniques | BashImagemagickLaTeXDockerGit |

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| role | Blockchain developer | OS3 (education), Amsterdam |
| timespan | February 2018 -> March 2018, 24h p/w (edu. project) |
| projecturl | http://github.com/svlentink/logdag |
| desc | Classic infrastructures use a central logging server. We created a Proof of Concept which distributes log chunks randomly to other servers and adds a hash of it a blockchain. This makes it infeasible to change the logs. |
| activities | Design and implement blockchain architectureDeveloping a web interface which shows a representation of the graph in real timeWriting the backend code in Python |
| techniques | PythonDockerHTML5JavascriptLaTeXD3jsGitDokuwiki |

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| role | Blockchain researcher | KPMG (education), Amstelveen |
| timespan | January 2018 -> January 2018, 40h p/w (thesis) |
| desc | Most blockchain technologies demand a participant to always be online, in sync with the blockchain. We wrote a paper on the various consensus mechanisms from the blockchain landscape and showed which are applicable on mobile devices. |
| techniques | LaTeXDockerGit |

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| role | Container technologist | OS3 (education), Amsterdam |
| timespan | November 2017 -> December 2017, 24h p/w (edu. project) |
| projecturl | https://github.com/svlentink/container-performance |
| desc | One of the new innovations is serverless. Serverless often requires you to rewrite code. We developed an alternative Proof of Concept, which when triggered (REST API, AMQP message) starts a container and returns its output. |
| activities | Develop PoC in pythonGenerate performance overview using RBootstrapping VPSes using Bash |
| techniques | RktDockerLXC / LXDPythonFlaskBashLaTeXRGit |

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| role | IoT Security researcher | OS3 (education), Amsterdam |
| timespan | September 2017 -> October 2017, 24h p/w (edu. project) |
| desc | Analysing the data flow of IoT (Internet of Things) devices, to get insight into the security and privacy. We looked at multiple devices, looking at the data and to where it connected to. |
| activities | Configuration IoT devicesAnalyse tcpdump using Wireshark |
| techniques | Wireshark / tcpdumpLaTeXDockerBashGitDokuwiki |

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| role | DevOps Engineer | Superbuddy (IT), Zwolle |
| timespan | June 2016 -> September 2016, 40h p/w (thesis) |
| desc | As part of my thesis, I've dockerized their monolith and enabled AB testing by separating components into microservices. Adding better monitoring and deployment via CI/CD. |
| activities | System recommendationsDockerizing existing applicationsImplement CI/CDEnable A/B testing using nginxAdvise on VPS providers |
| techniques | ScrumGitBashDockerDocker-composeNginxPHPdraw.ioLaTeXGitlab |

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| role | System analyst | Blendle (digital journalism), Utrecht |
| timespan | February 2016 -> May 2016, 40h p/w (thesis) |
| desc | To reduce the loading time of the application, I've researched various options to implement caching at different layers. When it was clear that everything had a query parameter and that it could not be solved on the network layer, I looked at bottlenecks in their monolith through static code analysis. After founding two code bugs, I managed to get their monolith working by dockerizing it. |
| activities | Creating diagrams of current architectureDataflow analysisStatic code analysis (Ruby)Dockerizing monolith |
| techniques | Scrumdraw.ioLaTeXRubyNginxHAproxyCDN Content Delivery NetworkJavascriptREST APIHAL JSONGit |

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| role | DevOps | imgZine (IT), Amsterdam |
| timespan | September 2015 -> January 2016, 40h p/w (internship) |
| desc | Developing a Proof of Concept backend which is used for chat inside intranet applications. Dockerized an existing XMPP server and compiled it with WebSocket libraries and developed an HTML5 app which connects to the backend using WebSocket (RFC7395). |
| activities | Developing HTML5 chat clientConfigure backendInstallation script in Bash |
| techniques | ScrumDockerHTML5XMPP serverWebSocketBashLaTeXGit |

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| role | NodeJS developer | Maxedy (IT), Amsterdam |
| timespan | February 2015 -> June 2015, 40h p/w (internship) |
| desc | Deployment using Bash and REST-API in Meteor using OrientDB |
| techniques | ScrumOrientDBNode.jsJavascriptREST APIBashNoSQLHTML5draw.ioGitMocha |

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| role | Grails developer | Iceberg Webshophands (retail), Dronten |
| timespan | November 2013 -> January 2014, 40h p/w (internship) |
| desc | Proof of Concept; developing online craigslist for fresh food |
| techniques | ScrumBashJavaHTML5SQLGrailsGit |

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| role | PHP developer | Windesheim (education), Zwolle |
| timespan | September 2011 -> December 2011, 30h p/w (edu. project) |
| desc | Development of two websites in teams |
| techniques | MySQLPHP5svn |