

# Martijn F. W. van der Veen

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PERSONAL *Born:* August 1989, Netherlands *Website:* <https://turiphro.nl>  
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ABOUT ME I'm a driven software professional with a background in AI (BSc) and computer vision (MSc). I have 12+ years of international experience, from Amazon to founding a startup in 3D printing. I'm looking for applied computer vision or machine learning engineering in my next position, ideally as part of innovative and customer-facing products.

## PROFESSIONAL EXPERIENCE



**Amazon**  
**Software Development Engineer**  
*March 2017 - Present*

**Image Science** (*February 2021 - Present*), Amsterdam, The Netherlands (team in Berlin)

Designed and built a large-scale computer vision platform for Amazon's product images. The platform provides on-demand inference (zero-shot, trained classifiers, embeddings), batch, and pre-computation. Designed and built . The platform computed 50BN+ computer vision inference results (230TB) and served 110BN+ requests, and is used for business critical systems and by dozens of science teams.

- Grew the engineering team from 1 to 6 software developers, with regular contributions from 5 applied scientists. Acting as team lead.
- Promoted to Senior Software Development Engineer in Nov 2022.
- Extended the CV platform with self-service training infrastructure to train lightweight ML models on top of pre-computed artifacts and serve inference at scale (>2.5BN inferences).
- Supported the team in building a large-scale embedding search service (>10BN embeddings), batch inference, GPU throughput optimisations (>90% cost reduction), large-scale data exports. Supported strategic GenAI initiatives across Amazon, optimised static asset delivery through CDN improvements, and improved image rendering (frontend and backend) across the retail website.

Technologies: AWS SageMaker, Rekognition, ECS, API Gateway, Lambda, DynamoDB, CDK; PyTorch, lightgbm, scikit-learn

**FinTech** (*June 2019 - January 2021*), Amsterdam, The Netherlands

Greenfield financial/accounting processing project. I designed the overall infrastructure (serverless and microservices on AWS), and designed and implemented the core transformation service based on Spark (processing \$36BN/year in the testing phase). I also mentored junior developers.

Technologies: Spark, AWS Glue, AWS EMR, AWS Redshift, Scala, Java, Python/Pandas, Javascript/React, AWS Lambda, Step Functions, CloudFormation/CDK, ECS/Fargate, S3, DynamoDB, etc

**Alexa Smart Home SLU** (*February 2018 - June 2019*), Vancouver, Canada

Software developer / NLP engineer at the Smart Home spoken language understanding (NLU) team.

- Designed, built, and released natural language support (training NER + domain + intent classifiers, updating intent ontology, creating synthetic + live data, writing grammars, maintaining annotation specs) for over half a dozen Alexa features, including Amazon Basics Microwave
- Built and improved NLP software tools for personalisation and contextual features
- Got promoted. Mentored team members and became a certified 'NLP bar raiser'

Technologies: Python, Spark, EC2/EMR, git, SOA, OpenFST, internal Amazon tools (data science CL, custom NN runtime, ML experiments, NLP annotations, release & deployment)

**Delivery Experience, Amazon Retail** (*March 2017 - February 2018*), Vancouver, Canada

Part of a small team with large customer-facing responsibilities and a service handling 16BN requests a day. Worked on launching new delivery programs (e.g., Amazon Key), optimising service efficiency (resulting in \$1.5M savings on a yearly basis), peak days preparations, OnCall, and team (re)building.

Technologies: Java (Spring, Lombok, Mockito), Hive/Hadoop, git, SOA, internal Amazon tools (fleet

management, continuous delivery, release management, testing frameworks, metrics & dashboards)

Z A Z Z Y

**Zazzy**, Amsterdam, The Netherlands

**Co-Founder**

*March 2013 - December 2016 (3yrs 9mos)*

End-to-end e-Commerce platform for personalised products, including online tools for easy design-ing/customisation. Product are produced by professional 3D printing services (metals) and laser-cutting. We built an end2end platform including easy-to-use design website, custom built e-Commerce platform, production management, assembly, and drop-shipping.

- Hired and built a team of 8+ people
- Raised angel capital (from founders of eBuddy, Hyves, vakantievelingen, a.o.)
- Partnership with HEMA (large Dutch retailer), introduced 3D printing to Dutch consumer market
- Developed 3D engine for custom product design: real-time creation of printable 3D models based on customer input (text, images, photos of drawings, face detection, etc), photo-realistic rendering, and 3D printable model output
- Designed and set up scalable render farm (500k+ renders generated)
- Part of Rockstart Accelerator 2013

Technologies: Django, Blender, OpenCV, Python (NumPy, Scrapy, Flask), MySQL, MongoDB, Docker, Wercker (CI), Sentry, REST APIs, React, websockets, Google Cloud Platform, Azure Cloud, git, PHP, Kissmetrics, 3D printers, CAD design



**The Things Network**, Amsterdam, The Netherlands

**Engineer (Volunteer)**

*August 2015 - October 2016 (2yrs 3mos · part-time)*

Building a crowd-sourced open data-network for the Internet of Things. I implemented the main website, the community portal, and the kickstarter landing page. I also built the first hardware node prototype.

Technologies: Django, Docker, Arduino, C, Go



**Stichting Studiebegeleiding Leiden**, Leiden, The Netherlands

**Programmer**

*August 2009 - March 2013 (3yrs 8mos · part-time)*

I built the main website, wrote internal tools, and managed online advertisement campaigns.

Technologies: PHP, MySQL, Python, VBA

## EDUCATION



**University College London**, London, United Kingdom

MSc. Computer Graphics, Vision and Imaging (with distinction)

*September 2011 - September 2012*

- Dissertation topic: Automatic 3D reconstruction of difficult outdoor scenes
- Courses: Computer vision, image processing, virtual reality (VR), computer graphics, computational photography, geometry of images, math



**University of Amsterdam**, Amsterdam, The Netherlands

BSc. Artificial Intelligence (with distinction, with honours)

*September 2008 - August 2011*

- Dissertation topic: Autonomously navigating drones (reinforcement learning)
- Courses: Java/C/C++, Prolog, algs+datastruct, OS, DBs, distrib systems, crypto, machine learning, neural networks, reinforcement learning, computer vision, NLP/Speech/computational linguistics, knowledge systems, math (LA, calc, prob, logic, geometric algebra), cognitive psychology, philosophy of mind, robotics courses (SLAM, probabilistic robotics; kinematics; electronics)



**University of Technology Delft**, Delft, The Netherlands

Electrical Engineering (Propedeuse / half of BSc; extra during BSc AI)

*September 2009 - August 2011*

TECHNICAL  
SKILLS

- Computer languages and tools: Python, Java, Scala, C, C++, JavaScript, PHP, SQL, Matlab, PROLOG, Unix/Linux and cli, git, Docker, AWS (*CDK, EMR/Glue, EC2/ECS/Fargate/Lambda, SageMaker, Rekognition, DynamoDB, Redshift, etc*), Spark, Hadoop, PyTorch, OpenCV, scikit-learn, lightgbm, NumPy, OpenGL, PCL, Django, Blender, ReactJS, MySQL, MongoDB, REST APIs, Google Cloud Platform, Azure Cloud, Sentry, Arduino, Raspberry Pi and Pico, 3D printers
- Some experience (*side-project, book, course*): TensorFlow, Golang, Ruby, Postgres, Redis, D3js, Unity3D, GPUs, VHDL

HOBBIES AND  
INTERESTS

I'm an enthusiastic tinkerer, and you'll often find me working on side-projects which combine software, CV/NLP, electronics, and/or woodworking (see [my website](#) for a selection). I like trying out new technologies and staying up to date with the ML/CV literature. If you can't reach me, I'm probably enjoying beers at a local bar or sightseeing on a city trip.

**Recent side-projects** include a hand-held image captioning device, a home-made desk with modular desk elements, and a shopping list based on a barcode scanner.

From Sept 2012 - Sept 2013 I was **vice-chairman** of Student Association Liber Amsterdam, responsible for the organisation of activities for 100 members.