

A portrait of a man with dark, wavy hair and light blue eyes, wearing a green t-shirt. He is smiling slightly and looking towards the camera. The background is a plain, light grey.A portrait of a man with dark, wavy hair and light blue eyes, wearing a green t-shirt. He is smiling slightly and looking towards the camera. The background is a plain, light grey.A portrait of a man with dark, wavy hair and light blue eyes, wearing a green t-shirt. He is smiling slightly and looking towards the camera. The background is a plain, light grey.A portrait of a man with dark, wavy hair and light blue eyes, wearing a green t-shirt. He is smiling slightly and looking towards the camera. The background is a plain, light grey.

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. The platform computed 80BN+ computer vision inference results (230TB), served 190BN+ requests, and is used for business critical systems by dozens of 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 warehouse ETL. Supported strategic GenAI initiatives across Amazon, optimised static asset delivery through CDN improvements, and improved image rendering across the retail website. I also wrote the HTML template which is currently rendering images on the product page.

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)

ZAZZY
Zazzy, Amsterdam, The Netherlands
Co-Founder & CTO
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, vakantievervelingen, 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 (Propeduse / 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.