

Official name

Jan Pavle Posma

Languages

Dutch (native), English (IELTS score 8.0)

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Please find an interactive version of this document online at janpaulposma.nl/cv.

Curriculum Vitae: Jan Paul Posma

Computer scientist with a broad range of interests. Implementing impactful ideas. Current focus: **mobility**. Fan of animal slippers and isochrones.

I've written production code in **15 languages**, taught programming and engineering for **8 years**, improved **250+** cities, made **4 legacy code bases** maintainable again, been paid to write code for **14 years**, and once used **25 wine glasses** in a project for MTV.

Professional experience

Cruise (staff software engineer)

2018 – present

At **Cruise** I work on internal tools for visualizing what the autonomous vehicles are “seeing” and “thinking”. As a staff engineer I'm responsible for much of the design and architecture of our software, as well managing knowledge of systems and best practices within the organisation.

*getcruise.com***Remix (tech lead + eng manager)**

2016 – 2018

Public transport is a crucial part of a functioning society. It helps lifting people out of poverty, takes cars off the road, and so on. At **Remix** we build tools for designing public transportation, to help cities better serve their citizens.

I've mostly worked on the **scheduling product**, the company's second product. I started prototyping UIs as a frontend engineer, and ended up in a **tech lead and engineering manager dual-role**. I've worked on every part of the product, including the data architecture, user interfaces, constraint satisfaction algorithms, developer tools, external integrations, and so on.

*remix.com***Brigade (senior software engineer)**

2015 – 2016

We tried to **tackle** the problem of declining **citizen power and engagement in American democracy**, by building tools for expressing your civic identity, learning about your friends and neighbours, and working toward common goals together.

I worked on the web application, where I mainly focused on features for **customer growth**; several of my proposals and implementations significantly increased our rate of acquisition. I introduced **engineering practices** that keep the complexity of our application contained, and I created a system for managing, visualising, and testing **analytics events** and **experiments**. Sometimes my work results in open source projects, such as a **polyfill for delayed scroll restoration**.

*brigade.com, github.com/brigade/delayed-scroll-restoration-polyfill***Versal (senior software engineer)**

2013 – 2015

I worked on the **core product**: an **authoring tool for interactive courses**, built from the belief that we are vastly underutilising the computer's potential in education. Based on lessons learned, I co-authored a new API for “gadgets” — building blocks of courses, such as videos, quizzes, simulations, games, and so on. We launched our development platform with this new API, and it was well received by gadget developers (much of the API has been **released as open source**). I also **mentored** several junior engineers, **spoke at industry events**, and advised on **systems architecture and product design**.

*versal.com, github.com/Versal***Factlink (software engineer)**

2012 – 2014

We built an **open source tool for curbing misinformation** on the web. I worked on getting traction and applying good engineering practices. We did not manage to get substantial traction, but applied the lessons learned to a spin-off company, **HackerOne**, which was funded by Benchmark Capital for \$9 million in May 2014. In 2015 I adapted some of the code for the open source project **Annotator.js**.

*factlink.com, hackerone.com, github.com/Factlink/annotator-paragraph-icons***Wikimedia Foundation (software engineer)**

2011

I worked in the **features team**, developing new tools for **Wikipedia** and other sites running **MediaWiki**. I mainly worked on **WikiLove**, a feature that got major **media coverage**. I was also involved in the discussion about building a new parser, a **major project** which enables developers to build a visual editor in the future.

wikimediafoundation.org, wikipedia.org, mediawiki.org, http://news.google.com/?q=wikilove, http://www.mediawiki.org/wiki/Future

University of Groningen (teaching assistant)

2010 – 2011

As a teaching assistant for **Computing Science**, I taught practical sessions, wrote teaching materials, and reviewed and graded submitted work.

rug.nl

WorldTicketShop (software engineer)

2009 – 2010

I was one of the first hires to work on the new **marketplace**. Although working only part-time for most of the time, I built large parts of the **critical infrastructure** of the site, made sure the **transition** between the old and the new site went well, did some of the dynamic parts of the **front-end** and was in charge of the **performance**.

worldticketshop.com

Cantouch (multitouch engineering intern)

summer of 2009

I worked on a large **multi-touch table** that supported many touches at the same time, allowing for multi-user interactions. I built two **promotional applications** for Technische Unie, a Dutch wholesale business.

youtu.be/3163Llr5qBs

Triati (software engineer)

2008 – 2009

I first **worked** on seoAssistant, a **web application** to monitor performance of websites in search engines. Then I built sportCMS, a website system for **small communities**, such as sport clubs.

triatl.com

Aerotronc (software engineer)

2006 – 2007

I worked on the Aerotronc **webshop**, which primarily sells remote-controlled helicopters. I improved the user experience and developed new modules.

aerotronc.nl

Contact information for references can be supplied upon request.

Education

MSc in Computer Science, University of Oxford

2011 – 2012

I studied and lived at **St Hugh's College**, where I was a committee member for the **Middle Common Room**. My final project was **JavaScript dares**, an **interactive online programming course** aimed at high school students, for which the thesis can be found **online**. It featured a carefully crafted set of **puzzles** based on the LOGO turtle and Karel the Robot, and a custom subset implementation of Javascript called **js--** to make **time-travel debugging and visualisation of execution** possible.

ox.ac.uk, mcr.st-hughs.ox.ac.uk, jsdares.com

BSc in Computing Science (cum laude), University of Groningen

2008 – 2011

I completed the **Computing Science bachelor** with distinction, **cum laude**. It included a 6-month minor in **Mathematics**. I also did committee work for **Cover** and **FMF**, two student associations.

For my bachelor thesis I researched new ways of **editing wikis** such as **Wikipedia**. In October 2010 I presented preliminary results at the MediaWiki Hack-A-Ton in Washington D.C. on invitation of the **Wikimedia Foundation**. In 2011 development continued in close collaboration with developers of **GRNET**, a Greek government-funded research institute. We presented this work at a gathering in Berlin in May 2011. The final thesis received a mark of **9.5** (out of 10), and can be found **online**.

rug.nl, svcover.nl, fmf.nl, wikipedia.org, wikimediafoundation.org, grnet.gr, http://commons.wikimedia.org/wiki/File:In-line_Editing_thesis.pdf

Willem Lodewijk Gymnasium, Groningen

2002 – 2008

I followed the track **Nature and Technology**, which focuses on exact sciences. Besides the main courses and the courses from this track, I studied **economics** and **ancient Greek**. My graduation project was **PimpMyBike**, an electronic circuit placed in the wheel of a bike, which displays an image when driving. Finally, I maintained the school's **website**.

wlg.nl, janpaulposma.nl/pimpmybike

Experience, prizes, and awards

Paper Programs

2018

Inspired by Dynamicland, a lab researching physical computing, I built **Paper Programs**, an open source programming environment where **physical pieces of paper** run computer programs. A camera detects and retrieves the program associated with each paper. I built this in two weeks, using React, OpenCV (compiled to WebAssembly), Web Workers, and CSS transformation matrices.

paperprograms.org

Vocal Minority

2017

In the wake of the 2016 US presidential election, some of my friends founded a **donation pool**, for which I implemented a redesigned website.

vocalminority.us

- Vote16SF** 2015
With Jared Shay and the Vote16SF teenagers
 For the **Generation Citizen Civic Tech Challenge 2015** a fellow programmer and I teamed up with a group that advocates for a lower voting age. In one day we put together a **website** that tells San Francisco voters why lowering the voting age is a good idea, and concrete steps they can take to help. Our team won the competition's **Civic Alignment Prize**.
civictechchallenge.org, vote16sf.org
- Visualising Program Execution** 2015
 Based on my work on **jsdares** and research into debugging tools, I developed prototypes for new ways of **gathering and visualising execution traces** of programs. I presented my findings at a few conferences: ForwardJS, OSCON, and Strange Loop. After that, I released the **final prototype**, which I actually used in our production codebase at Brigade.
jsdares.com, janpaulposma.nl/visualising-program-execution, github.com/janpaul123/omniscient-debugging
- λ Lessons** 2014
With Steve Krouse
 In this hackathon hosted by Y Combinator we created **λ Lessons**, an **open source Haskell course**. For this we implemented a **custom Haskell parser** and **interactive visualisation** of functional expansion and reduction. Our work generated significant interest in the web development and functional programming community — even a spin-off was made, the very entertaining **λ Bubble Pop**.
stevekrouse.github.io/hs.js, chrisuehlinger.com/LambdaBubblePop
- Vriendenpolitiek** 2012
 In the run up to the Dutch national elections I built an **interactive website** that shows exactly how much the **different parties agree with each other** when voting on bills. This application led to an invitation to the first **hackathon** ever to be held in a House of Representatives.
janpaulposma.nl/vriendenpolitiek, appsvoordemocratie.nl
- Fronteers conference (volunteer)** 2009, 2012
 I volunteered in organizing the **Fronteers conference** about front-end web development.
fronteers.nl/congres
- Varsity Coding Contest** 2011
 In this programming competition I secured the **5th place** within Oxford University.
- Apps for Noord-Holland** 2011
 For this **open data competition** I built a **website** with practical information about open swimming water, such facilities, health warnings, and so on. It won the **golden prize** in the category Tourism and Culture.
janpaulposma.nl/zwemmeninnoordholland
- Huygens Scholarship** 2011
 The **Huygens Scholarship Programme** awarded me a full scholarship to finance my studies in **Oxford**.
- Science Center North (volunteer)** 2008 – 2011
 As an unpaid volunteer, I worked at **SCN** with children (age 10–18) on **electronics** and **programming** projects. I taught about soldering, (embedded) programming, and the drawing of schematics and circuit boards. I also developed a set of example projects. We built **oscilloscope games**, **robots**, **aquarium discos**, and **alarm clocks** that played the Super Mario and Tetris themes.
stichting-scn.nl
- IKEA (project manager for student development project)** 2010
 I participated in an **international software engineering project**, coordinated by the university, to develop an internal webapplication for **IKEA**. This was done in cooperation with students from the **Linnaeus University** in Växjö. I was the **project manager** of a team of 11 students.
ikea.com, lnu.se
- IWI programming contest** 2009, 2010
With Roan Kattouw
 In this university contest we secured the **1st place** as a junior team in 2009.
With Roan Kattouw and Herbert Kruitbosch
 In 2010 we competed in the senior league, and got the **2nd place**.
- Audivididici** 2007 – 2009
With Simon Roosjen
 In high school I developed a program for **learning languages** by adding pictures and sound, a method rooted in pedagogical theory. I developed this with my classical languages teacher, who used it successfully in class using (collaborative) exercises. We were awarded funding from **Kennisnet Grassroots**. The program is also featured in a **video** about innovation about education (in Dutch). There is still a group of teachers who actively use our tool in class.
auvididici.nl, grassroots.nl, leraar24.nl/video/409

Benelux Algorithm Programming Contest

2009

With Roan Kattouw and Herbert Kruitbosch

In this national contest we secured the **10th place** nationally, and the **1st place** within our university.

Young Talent award

2009

The Royal Holland Society of Sciences and Humanities awarded me a **Young Talent** award.

National Informatics Olympiad

2007, 2008

This competition is aimed at solving algorithmic problems and implementing them. In the national rounds I secured a **5th place** in 2007 and **7th place** in 2008.

RoboChallenge Junior

2006, 2007

With Marc van Beest

The aim of this national competition was to build a robot that is able to navigate on a grid and perform certain tasks. Our robot won the **1st place** in 2006, and the **3rd place** in 2007.

Various open source projects

I developed parts of **usbpicprog**, an open source, open hardware project, consisting of a **hardware device** and a piece of **cross-platform C++ software**.

I founded **OpenLaserFrag**, an open source, open hardware **laser-tag game**. I built the original hardware and software, which is now being built on without my involvement.

I wrote the initial Sublime Text port of **import-js**, a tool for making working with Javascript dependencies easier.

On my **GitHub** page there are some more projects I started or contributed to.

usbpicprog.org, openlaserfrag.org, github.com/janpaul123

Other activities include **photography**, playing the **piano**, and the occasional **skiing** and **sailing**. I enjoy building **interesting things**, such as a **computer in a briefcase**, **balloon molecules**, **self-enumerating pangrams**, or a **voice-controlled apartment**. For more information on my personal interests, please visit my website: janpaulposma.nl.