

# Curriculum Vitae

## Max Vilkki

16 years of work experience in working in varied projects from web technologies (such as Node.js, TypeScript) to native C++ multimedia programming with a strong hobby background of game engine development.

Even though he's a programming generalist in nature he has always had a keen focus on the end-user experience, designing user interfaces and an eye for visuals. Working in startups and research he's done a lot of experimental projects with new technologies and taking a lot of responsibility for the outcome from understanding and defining the requirements to the actual implementation. He has a strong interest in good architecture and readable but also fast code.

## Contact information

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## Address

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## Personal Information

Max Antero Vilkki, born January 1st, 1983 in Kirkkonummi

## Education

2003 - 2015 Helsinki University of Technology / Aalto University, Dep. of Computer Science, 247 / 300 credits completed (82%). Major: Interactive Digital Media, Minors: Content Production & Software Business.

1999 - 2002 Lohjan Lukio, Matriculation examination

## Language Skills

Finnish Fluent

English Advanced

## Positions of Trust

ZOO Commodore 64 demoparty

Participated in organizing competitions for World Wide ZOO 2021 and ZOO 2022.

Assembly demoparty

Participated in organizing real-time competitions for Summer 2018, Summer 2019, Online 2020, Summer 2021 Fall Edition and Summer 2022.

Spaceify Oy

Member of the board since the beginning of 2016.

Club for Digital Media, DOT

Member of the board 2005, Chairman of the Board 2006-2007, Secretary 2008

## Main experience

### Software Consultant

Mavericks Software Oy, 10/2020 - 10/2022

Working as on-premises or remote consultant, helping our clients to the moon and back.

### Co-founder

Spaceify Oy, 01/2016 - present

Worked with modern web technologies on various projects including the Spaceify client-edge-server ecosystem, browser based public screen multiplayer games and a browser based mobile ordering and self scanning app. Used TypeScript, JavaScript, Node.js, WebSockets, SQL, Ionic (Angular), HTML5, CSS, PHP & Silex, C++, Docker and Linux.

### Software developer

Screen.io Oy, 10/2017 - 10/2020

Worked with modern web technologies on various projects prototyping the future of Screen.io technology stack. Used TypeScript, React, NextJS, HTML5, CSS, Node.js, Server-Sent Events, CockroachDB, SQLite3 and Linux.

### Software Developer

SimAnalytics Oy, 02/2016 - 02/2016

Helped SimAnalytics by doing user interface and data visualization development with Vaadin and Java during a predefined one month contract.

### Research Assistant

Helsinki Institute for Information Technology (HIIT),

06/2009 - 12/2014, 04/2016 - 12/2016, 03/2017 - 05/2017, 06/2017 - 09/2017

Worked on varied research projects related to multitouch user interfaces, content management systems, public displays, marker based indoor navigation, retail digitalization, depth cameras and cinema gaming (shared bigscreen & mobile phones as interactive controllers).

### Software Consultant

TA-Yhtymä Oy and Pandia Oy, 06/2006 - 08/2008

Design, implementation and documentation of web-based real estate software in a team using JavaEE, Tiles, JSP, Struts, SQL, XHTML, CSS and JavaScript technologies.

### Software Consultant

The Student Union of the University of Helsinki, 06/2003 - 08/2005, 12/2006 - 06/2007

Design and implementation of a custom CMS and a website for the student union and an ERP system for managing apartment rental listings

# Projects

## 2020/05-2022/11 - Front-end development

ABB, Industry

Front-end development and UI design consulting work for ABB.

- Role: Front-end developer
- Tech: JavaScript, TypeScript, DOM, Canvas, SCSS

## 2020/01-2020/05 - telkku.com

Alma Media, Media

Front-end development consulting work for Alma Media for their service telkku.com.

- Role: Front-end developer
- Tech: JavaScript, TypeScript, React

## 2017-2020 - Next-gen software stack

Screen.io Oy, Startup

Taking part in prototyping and developing the future of screen.io technology stack.

- Role: Full-stack developer
- Tech: Node.js, Server-Sent Events + REST, PostgreSQL, CockroachDB, SQLite3, React, NextJS, HTML, CSS

## 2019-2020 - Data migration tool

Screen.io Oy, Startup

Remodeling the entire production dataset in SQL and migrating it from thousands of individual databases and configuration files to a single database of a size around 20 gigabytes.

- Role: Back-end developer
- Tech: Node.js, DirtyDB, CockroachDB, SQLite3

## 2018 - Finvoice generator

Screen.io Oy, Startup

Back-end and library for generating SOAP+XML Finvoice format invoices and generating PDF invoices from them.

- Role: Back-end developer
- Tech: Node.js, FinvoiceXML, PDFrendering

## 2017 - Database schema migration tool for CockroachDB

Screen.io Oy, Startup

Creation of CLI based tool for database schema migrations for CockroachDB databases inspired a lot by Flyway.

- Role: Back-end developer
- Tech: Node.js, CockroachDB, SQL, Flyway

## 2017-2020 - Spaceify SelfScanner product line

Spaceify Oy, E-commerce / Startup

Taking part of every step of the project: a business idea, developing it further through use cases & interviews, product UI design, full-stack development and soft launch.

- Role: Full-stack developer
- Tech: Node.js, MySQL, WebSockets, TypeScript, JavaScript, Ionic (Angular), HTML, CSS, Bash, C++

## 2016 - UI development for Simanalytics

Simanalytics Oy, Business analytics / AI

Predefined one month contract for developing a few new custom UI features with Vaadin.

- Role: Front-end developer
- Tech: Java, Vaadin

## 2015 - Promotional touchscreen UI

Aalto University Communications Unit, Marketing

Development of a web-based touchscreen promotional application for Aalto University at Slush 2015.

- Role: Full-stack developer / UX design

- Tech: JavaScript, HTML5, CSS, Node.js, Touchscreen input mapping

## 2016-2017 - Applications for Spaceify edge computing smart space ecosystem

Spaceify Oy & Helsinki Institute for Information Technology (HIIT), Research

Taking part in development of several apps on the Spaceify edge computing smart space ecosystem including Philips Hue light controller and various prototypes of public shared screen gaming with mobile phones as controllers.

- Role: Full-stack developer

- Tech: Node.js, JavaScript, HTML, CSS, BabylonJS, Bootstrap, IoT

## 2014-2015 - BitSIGN marker based augmented reality indoor navigation experiment at Kamppi

Helsinki Institute for Information Technology (HIIT), Research

Taking part in planning the project from the very beginning, designing the back-end data format for navigational tags and also creating the release builds of the mobile apps in Google Play and Apple AppStore.

- Role: Design, back-end development

- Tech: Node.js, data format design, Google Play, Apple AppStore

## 2012-2014 - Real-time CMS for touch screen content

Helsinki Institute for Information Technology (HIIT), Research

Design and development of real-time multi user CMS for managing physics based touchscreen content and deployed at EIT ICT Labs stand for Mobile World Congress 2013.

- Role: Full-stack developer

- Tech: Node.js, SocketStream, MongoDB, CoffeeScript, HTML5, CSS, Bootstrap

## 2012 - Kinect integration for huge touch screens

Helsinki Institute for Information Technology (HIIT), Research

Development of research prototype Kinect depth camera recorder app that transmit calculated coordinates of detected persons over XMPP and combine possible duplicates in overlapped views when using several depth cameras. 3D visualization of the detected users and various prototypes testing the interaction with the screen. Deployed at EIT ICT Labs stand for CEBIT 2012.

- Role: Software developer

- Tech: C++, OpenGL, CornerStone SDK, Kinect, OpenNI, QtCore, QXMPP, qmake

## 2010-2012 - Touchscreen UI

Helsinki Institute for Information Technology (HIIT), Research

Design and development of additional UI content rendering and improving touch & feel for native physics based research prototype touch screen UI made for showing promotional content.

- Role: Software developer

- Tech: C++, OpenGL, Cornerstone SDK, QtCore, qmake

### **2010-2011 - Tangent: Multiplayer strategy game prototype with motion controls**

Helsinki Institute for Information Technology (HIIT), Research

Taking part in design and implementation of a multiplayer strategy game for the Nokia N900 phones using QML and C++.

- Role: Game developer

- Tech: QML, C++, QtCore, QXMPP, qmake

### **2010 - Content management for a touchscreen UI**

Helsinki Institute for Information Technology (HIIT), Research

Design and implementation of Django Admin based content management tool with XML output for loading content into research prototype touchscreen info wall deployed for Pori Jazz festival 2010.

- Role: Back-end development

- Tech: Python, Django, XML

### **2009-2010 - Cinema gaming experiments**

Helsinki Institute for Information Technology (HIIT), Research

Design & implementation of several research prototypes of big screen gaming with mobile phones as interactive controllers. Taking part in organizing the end-user testing.

- Role: Game developer / Research assistant

- Tech: Java SE, Java ME (S60), JOGL, jMonkeyEngine

### **2008 - Financial data migration**

Pandia Oy, Real estate

Development of a financial data migration tool for importing and converting data into Pandia's BI tool.

- Role: Software developer

- Tech: JavaEE, MSSQL

### **2007 - Kinopoli movie theater reservation system**

Audiopoli ry, Student association

Design and implementation of movie theater reservation system with admin functionality for managing the available calendar days, reservations and billing.

- Role: Web developer

- Tech: PHP, custom MVC, MySQL, HTML, CSS, Javascript

### **2006-2008 - Real-estate apartment condition inspection tool**

TA-Yhtymä Oy and Pandia Oy, Real estate

Design and implementation of web-based apartment condition inspection and reporting tool in a team.

- Role: Front-end developer

- Tech: JavaEE, Tiles, JSP, Struts, SQL, XHTML, CSS, JavaScript

## Native Development

Skill	Level 1-5	Years	Last used
C++	4	13 years	2023
OpenGL	4	12 years	2022
GLSL	3	3 years	2022
SDL2	5	5 years	2018
Dear IMGUI	3	2 years	2020
Qt/QML	3	2 years	2012

## Build, Testing, Tools

Skill	Level 1-5	Years	Last used
Git	4	10 years	2023
Jasmine	4	3 years	2020
Jenkins	4	3 years	2015
Valgrind	3	2 years	2021
googletest	3	0.5 years	2017
cmake	4	3 years	2023
qmake	4	4 years	2015

## Server, Cloud, Infrastructure

Skill	Level 1-5	Years	Last used
Linux	5	19 years	2023
NGiNX	4	8 years	2019
Apache HTTP Server	3	7 years	2016
Docker	1	0.5 years	2018

## Front-end Development

Skill	Level 1-5	Years	Last used
HTML/CSS	5	20 years	2022
JavaScript	5	10 years	2022
TypeScript	5	5 years	2022
React	3	4 years	2021
Ionic	3	3 years	2019
Angular	3	3 years	2019
NextJS	3	1 year	2020
Babylon.js	3	1 year	2018

## Back-end Development

Skill	Level 1-5	Years	Last used
Node.js	5	9 years	2021
PHP	4	6 years	2018
PostgreSQL	3	1 years	2010
CockroachDB	3	0.5 years	2020
MySQL	4	4 years	2020
SQLite3	2	0.5 years	2020
Microsoft SQLServer	1	0.5 years	2008
Python	3	1 years	2010

## Mobile Development

Skill	Level 1-5	Years	Last used
Responsive HTML/CSS	5	7 years	2022