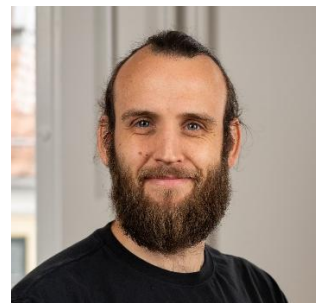


Jakob Hanehøj

Freelance Software Engineer | C++



EDUCATION

M.Sc. in Computer Science

University of Copenhagen

2014-2016

B.Sc. in Computer Science

University of Copenhagen

2011-2014

SKILL HIGHLIGHTS

- Engine development
- Platform development
- Application development
- Full stack development
- Tool development
- Domain analysis
- Software design

CODING

- C++
- C# / .NET
- Haxe
- Python
- Unity / Unreal / Godot
- JavaScript
- HTML5

LANGUAGES

English	Fluent
Danish	Fluent

CONTACT

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ABOUT ME

With over 10 years of experience as a software engineer, I specialize in building robust platforms, designing high-performance engines, and developing applications from the ground up. My approach to development is centered around crafting elegant, efficient solutions for complex challenges, writing clean, maintainable code that's optimized for both scalability and performance.

With a strong educational foundation and hands-on experience, I have a deep and abstract understanding of programming languages, having even developed languages in the past. While my primary expertise lies in lower-level languages such as C and C++, I am also well-versed in high-level languages like C#, Python, Haxe and JavaScript. Additionally, I have a solid understanding of functional programming principles and languages. This background makes it easy for me to quickly learn new languages and technologies, driven by curiosity and a passion for continuous learning.

As a consultant, I focus on thoroughly understanding my clients' needs, ensuring I add the most value to their teams by aligning technical solutions with business goals. This client-centered approach, combined with my attention to detail, ensures both immediate impact and smooth transitions, making it easy for clients to maintain and build on the work after the project concludes.

Additionally, my 7 years as co-founder and CTO of a gaming company, where we build solutions from scratch, have provided me with extensive experience in areas ranging from complex software design to maximizing impact with minimal resources.

EXPERIENCE

Hanehoj Consulting

Contract Software Engineer

2018 – present

NOTABLE PROJECTS:

- Developed an AI-based real-time image tracking system in Python.
Nov 2024 – Dec 2024
- Major refactorization of forked codebases, eliminating years of technical debt.
Sep 2023 – Nov 2023
- Redesign and implementation of brand-new version of in-house platform, to fit customers changing needs.
Feb 2022 – Mar 2023
- Design and implementation of full accessibility automation for products built on in-house platform.
Nov 2019 – Jun 2020
- Design and development of in-house platform for product pipeline, including first product.
Sep 2018 – Nov 2018

Componium

CTO, Co-Founder, Senior Software Engineer

2017 – present

CTO, developing in-house programming languages, game engine developer, lead game director

- **Game Director**
Mar 2023 – Present
Lead game director on first game, with hands on development of core parts of the game.
- **Game Engine Developer, CTO**
Jul 2020 – Feb 2022
Created a procedural game engine from scratch using in-house languages.
- **Programming language designer and developer**
Sep 2017 – Aug 2020
Wrote and implemented two intertwined programming languages in C++.

Laerdal Copenhagen

Software Engineer

2012 – 2017

I started my professional career in Laerdal Copenhagen, helping them develop medical simulators using primarily C# and Unity.

- **Software Engineer**
Sep 2016 – Aug 2017
Web-based application integrating with mannequin for teaching CPR.
- **Software Engineer Intern**
Jan 2012 – Jun 2016
Helped developing and testing medical simulators.

Skills

(Skill levels: Beginner, Competent, Proficient, Expert)

	Level	Latest use	Years of experience
Role			
Software Engineer	Expert	2025	12
Software Architect	Competent	2025	7
Area			
Web-applications (front-end)	Proficient	2023	6
Web-applications (back-end)	Proficient	2023	6
PC applications	Expert	2025	12
Mobile apps	Competent	2023	5
VR applications	Competent	2023	2
Middleware (libraries/platforms)	Expert	2025	7
Programming language development	Expert	2025	7
Performance Optimization	Proficient	2025	10
Multithreading/scalability	Proficient	2025	5
Accessibility	Competent	2022	3
Machine Learning	Competent	2016	2
AI	Competent	2016	2

	Level	Latest use	Years of experience
Languages			
C++	Expert	2025	12
C	Proficient	2010	4
C# / .NET	Proficient	2023	10
Java	Proficient	2011	4
Javascript	Proficient	2022	8
Typescript	Proficient	2011	2
Python	Proficient	2024	6
Haxe	Expert	2023	7
Swift	Competent	2016	2
Rust	Beginner	2019	1
PHP	Beginner	2010	1
HLSL	Proficient	2024	5
Shell	Proficient	2024	6
Prolog	Competent	2011	1
ActionScript	Beginner	2011	1
Haskell	Competent	2010	3
Erlang	Competent	2010	2
Go	Competent	2010	1
Assembler	Competent	2010	2
Matlab	Competent	2011	2
R	Competent	2011	2
CUDA	Competent	2016	1
OS			
Windows	Expert	2025	12
Linux	Competent	2024	6
iOS	Competent	2023	3
Android	Proficient	2023	3
Backend			
Docker	Competent	2025	2
Docker Compose	Competent	2025	2
Kubernetes	Beginner	2025	1
AWS	Beginner	2025	1
RabbitMQ	Beginner	2024	1
Redis	Competent	2024	2
Valkey	Competent	2024	1
Memcached	Competent	2016	1
REST	Beginner	2024	1
Sockets	Proficient	2017	7
TCP	Proficient	2017	7
UDP	Proficient	2017	7
Frontend			
HTML5	Proficient	2023	6
CSS	Proficient	2023	6
AJAX	Competent	2011	2
WebSockets	Proficient	2022	6
WebAssembly	Beginner	2020	1
Bootstrap	Beginner	2016	1
React.js	Competent	2020	1
Grafana	Beginner	2024	1
AngularJS	Beginner	2016	1
Polymer	Competent	2016	2
Selenium	Competent	2016	2
ARIA/WCAG	Proficient	2023	3

	Level	Latest use	Years of experience
Middleware			
Programming language design	Expert	2022	8
API-design and -development	Proficient	2025	7
Domain specific languages	Expert	2025	7
Compiler development	Expert	2022	8
Microservices	Proficient	2024	6
UI framework design and development	Expert	2025	10
Game engine design and development	Expert	2025	6
Procedural content generation	Proficient	2025	5
Computer graphics	Proficient	2025	6
Shader programming	Proficient	2025	5
Data pipelines	Proficient	2025	6
Flow-based programming	Expert	2025	8
Image processing	Proficient	2002	3
Signal processing	Proficient	2012	3
OpenGL	Competent	2010	3
DirectX 11	Proficient	2016	4
DirectX 12	Proficient	2025	7
Win32	Proficient	2025	10
OpenCV	Competent	2024	3
Application Frameworks			
Unity	Proficient	2023	7
Unreal Engine	Proficient	2024	3
Godot	Competent	2023	2
Microsoft XNA	Competent	2012	3
OpenFL	Beginner	2013	2
Qt	Beginner	2012	1
Tools			
Visual Studio	Proficient	2025	12
VS Code	Proficient	2025	9
VS Code extension development	Proficient	2023	7
Sublime Text	Proficient	2018	6
Git	Proficient	2025	10
Mercurial	Competent	2016	3
Subversion	Competent	2016	3
TortoiseHg	Competent	2016	3
Jenkins	Competent	2016	3
Github	Proficient	2025	10
Gitlab	Competent	2024	2
Bitbucket	Proficient	2023	8
PIX	Proficient	2024	3
Jira/Confluence	Proficient	2023	6
Methods			
CI / CD	Proficient	2025	8
TDD	Proficient	2024	8
Gitflow	Proficient	2025	7
Agile	Proficient	2025	8
Scrum	Proficient	2023	5
Kanban	Proficient	2023	5
Software patterns	Expert	2025	12
OOD	Expert	2025	12
OOP	Expert	2025	12
SOA	Proficient	2024	8

	Level	Latest use	Years of experience
Data formats and bases			
XML	Proficient	2016	8
JSON	Proficient	2024	10
YAML	Proficient	2024	3
TOML	Competent	2024	2
SQL	Proficient	2024	5
SQLite	Proficient	2024	5
MySQL	Competent	2016	3