# Gustav Björk



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Born 23 February 1996

## WORK EXPERIENCE

### Engineering Manager
*Jan 2025 – Now*

MSAB, Stockholm

Leading and managing a team of developers and testers tasked with decrypting and decoding Android app and system data. Being part of strategic decisions throughout the company, making our products more capable and easier to use.

I've been actively improving our recruitment processes to find new talent and designed and conducted technical interviews with candidates.

While many of my responsibilities have been at a higher strategic level, I make sure to take time to keep honing my own development and forensic skills.

### Development Team Lead
*Jun 2023 – Dec 2024*

MSAB, Stockholm

I continued to develop our tools to access and interpret mobile data while leading the Android decoding team.

### Software Developer and Scrum Master
*Oct 2021 – Jun 2023*

MSAB, Stockholm

Developed tools used in IT forensics to gather evidence from mobile phones. I investigated popular apps, reverse-engineered them, decrypted their data, and turned my findings into automated solutions in our C++ codebase.

### Graphics Programmer for the Gripen E/F Aircraft
*Jan 2021 – Oct 2021*

Saab AB, Järfälla

- Designed and implemented the rendering framework used for the displays in the Gripen E/F aircraft.
- I was part of a small team of 3 people where we had the sole responsibility for the rendering framework. This allowed me to be included in architectural and design decisions.
- I worked in C++ and using the rendering API OpenGL.

### Summer Worker in Software Development
*2012 – 2019*

Hitachi ABB HVDC, Ludvika

- I developed tools for the electrical engineers to utilize in their workflow, especially to analyze, compare, and visualize results from power grid simulations. During 2019 I was also a supervisor for the new summer workers at the department.
- C++, Matlab, Python

### Freelance Game Developer
*Apr 2019 – Jun 2019*

Redgert Comms, Stockholm

- I developed a web-based game to help market the company "K2A Fastigheter" leading up to their stock exchange listing. I was hired as a freelance developer by the PR agency "Redgert Comms".
- The game was made from scratch using JavaScript and WebGL.

*2015 – 2020*  ## Master of Science in Engineering Degree in Game and Software Engineering
Faculty of Computing, Department of Computer Science, Blekinge Tekniska Högskola (BTH)
- Master's thesis on intersection detection using Neural Networks. Link to publication

Languages  Swedish - Native
English - Fluent

Programming
languages and APIs  C++, TypeScript/JavaScript, Python
OpenGL, WebGL, DirectX 12

My school and hobby projects are best viewed through my portfolio - bjorkgustav.se/portfolio

*Ongoing*  ## Web-based Game Engine
Continuously developing my game engine. To easily showcase my work I've made it web-based, built from scratch with Typescript and WebGL.
- Deferred rendering
- Directional and point shadow mapping
- Volumetric lighting
- Skeletal animation
- My own wavefront obj and glTF parsers for importing models
- Particle system
- Grass rendering
- Instancing
- Screen door transparency together with blurring for order-independent, depth-tested transparency rendering
- Collision detection and handling through SAT, including continuous collisions
- Dynamic hierarchical trees (quad and octree) for frustum culling and collision checking
- Overlaid HTML for GUI elements

This engine, in different stages of it's development has been used to create game jam submissions, they are all available in my portfolio.

*Sept 2019 – Dec 2019*  ## Large Game Project - SPLASH$_2$O
BTH, Karlskrona
Ray-traced online first-person shooter built in C++ and DirectX 12.
My contributions included
- Sole responsibility for the physics engine with mesh-to-mesh continuous collisions.
- Frustum culling using an octree.
- Particle effects framework.
- Game design and gameplay programming

*Jan 2018 – Mar 2018*  ## Small Game Project - SPASM
BTH, Karlskrona
My contributions included
- Creating models
- Animations
- Map building (tools and map design)
- Map building block appearance and connections
- Score visualizations
- Game design and gameplay programming

References  References are gladly provided upon request.