Vincent Karlsson

Fullstack Software Developer

9 YEARS IN THE BUSINESS

Vincent is a curious and driven problem solver who always strives to develop and streamline work through new technologies and strategies.

He has a positive attitude towards the idea that teamwork and a focus on health create the foundation for all solutions.

Vincent continuously develops his skills both during work and in his spare time to stay updated in the ever-changing world of technology.

Currently learning:
* Golang as a backend for my hobby project a text based game with Angular as frontend.
* MongoDB as database for my text based game hobby project.
* Vue 3 fundamentals
* Nuxt as a SSR frontend combined with Optimizley 12 CMS.

COMPETENCE

Tools

Postman, Docker, Git, MySQL Workbench, pgAdmin4, Azure DevOps Services, Azure, Confluence, Atlassian, Jira, Visual Studio Code, Visual Studio

Methods

Clean Architecture, SOLID principles, Agile Development, Test Development, Lean, Kanban, Software Development

Programming languages

MySQL, PostgreSQL, MongoDB, SQL, TypeScript, JavaScript, Python, LUA, C#, C++

Frameworks

gRPC, .NET Core, .NET Framework, .NET MAUI, .NET Blazor, .NET, Node.js, Entity Framework, Angular

EXAMPLE OF WORK EXPERIENCES

- Full-stack System Developer & IT Hosting
- Project manager for the integration of machine control systems with Tenstar's simulators.
- 3D programming/development of physics engine and training exercises

WORK EXPERIENCE

TENSTAR SIMULATIONS AB 2020-01 - 2024-03
FULLSTACK SOFTWARE DEVELOPER

Vincent was involved in creating a new Development/DevOps team for managing Tenstar's web services and other tools. The role shifted from 3D development to a full focus as a system developer. Here, we developed a completely new suite called Tenstar User Experience that included a new client for the simulator in Node.js, Electron + Angular, as well as a teacher tool in the form of a website in Angular.

The role also involved consulting in IT and hosting of servers and databases. There was room for initiative and it started a spark to driving the company towards a more cloud-based approach.

Services were created such as:

* Handling of analytical data with OpenSearch hosted on Linux using an intermediary app.
* Improved scripts and tools for the build pipeline in Python.
* Hosting of Prometheus & Grafana for server monitoring.
* Development of a major service(s) in Azure for distributing 3D software. Optimized for scalability and faster data download.

Competence

.NET, Entity Framework, TypeScript, JavaScript, HTML, CSS, Node.js, Electron, Angular, ASP.NET, .NET MAUI, gRPC, .NET Blazor, PostgreSQL, MySQL, MongoDB, Docker, Microsoft Azure, Azure DevOps Services

TENSTAR SIMULATIONS AB 2018-01 - 2021-06
PROJECT LEAD/PROGRAMMER

Vincent acted as project manager and programmer for integration of third-party machine control systems from different companies. As project manager, he oversaw consultants from different countries such as Poland, Bulgaria and Denmark and guided the integration of the systems with Tenstar's 3D engine for the simulated machines; Tracked Excavator and Dozer. A machine control system runs on a separate hardware and usually one communicates with it with CAN-bus or Ethernet.

During the years Vincent integrated the following machine control systems:

* Trimble Earthworks, Excavator and Dozer support. Project required participation from Tenstar, Trimble and a consulting firm and the team was spread across the world, which posed challanges with different time zones and deadline for the big german Bauma exhibition.
* Leica's new MCP80, Excavator support. Consultants from Denmark, CAN-bus integration.
* Topcon's 3DMC, upgrade to newer Android based system with an Android tablet.
* Novatron Xsite from Finland, integration was done with both the old hardware and the new Landnova X which could be run directly on the simulator without external hardware.

Competence
C++, LUA, Ethernet, HTTP, Project Management, Android

SIMPLIFYING THE
WORLD WITH TECH

TENSTAR SIMULATIONS AB 2015-05 - 2018-01
PROGRAMMER

Vincent has worked as a 3D programmer and training programmer, where the tasks have involved simulating various machines such as:

* Excavator, Dozer, Articulated Hauler
* Counterbalance Forklift
* Forwarder & Harvester
* Tractor

The exercises were written in LUA & C++ and targeted students in education with support for text-to-speech, session playback, networking, VR and reporting tools. This, combined with the development of Tenstar's "in-house" 3D engine using DirectX11 and Nvidia PhysX.

Competence

C++, LUA, 3D Animation, 3D Design, Game Development, Virtual Reality

SIMPLIFYING THE
WORLD WITH TECH

EDUCATION

Formal education
Playground Squad, 3D Programming, 2015
NTI Gymnasiet, Falun - Electrical Engineering/Programming specialization, 2013

LANGUAGES

English - Fluent
Swedish - Native