







Andreas Oven Aalsaunet

Senior Software Engineer

Seasoned Senior Software Engineer with a specialization in 3D and Game Engine development, particularly adept with Unity and Unreal Engine 5. Proficient across all stages of development cycles, navigating diverse projects and corporate landscapes, from agile tech startups to industry-leading technology enterprises. Skilled in an array of programming languages, encompassing C, C++, C#, Java, Python, Objective-C, Swift, Go, and Rust. Equipped with a robust background in project management and adept at fostering cross-functional collaboration for seamless project execution.

Contact

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Expertise

- ❖ Object-oriented programming.
- ❖ 3D development and rendering (Unity, Unreal).
- ❖ System architecture and design patterns.
- ❖ Design, mockup and prototyping.
- ❖ Project management and leadership.

Programming Languages

- ❖ C/C++
- ❖ C#/.NET – Windows ecosystem
- ❖ Swift/Objective-C – iOS ecosystem
- ❖ Java – JVM ecosystem
- ❖ Rust
- ❖ Go

Certifications

- ❖ Oracle Certified Associate, Java SE8 Programmer. CertifikID: 1Z0-808.
- ❖ Massachusetts Institute of Technology: Data Science - Data to Insights.

Spoken Languages

- ❖ Norwegian bokmål – Native
- ❖ English – C2 (proficient)
- ❖ Spanish – B2 (upper-intermediate)
- ❖ French – A2 (pre-intermediate)

Interests

- ❖ Language learning (programming and spoken)
- ❖ Investment and trading
- ❖ Standup comedy
- ❖ Competitive gaming

Summary of experience

○ Senior Software Engineer at Aalsaunet Consulting (ENK)

November 2023 – Present | Høvik, Norway
Creating a 3D interactive logistics & supply chain viewer in Unity.
Technology: C#, Rust, Unity, Cesium 3DTiles, 3D modelling, git.

○ Senior Software Engineer at Apple Inc

November 2019 – November 2023 | Barcelona, Spain
Feature development and user analysis for Apple's digital voice assistant Siri.
Technology: Swift, Objective-C, C++, Python, SQL, NLP/ML, Xcode, SiriKit, git.

○ Head of Engineering at Dimension10 AS

August 2017 - October 2019 | Oslo, Norway
Leading development of a virtual reality collaboration platform for AEC industries.
Technology: C#, C++, Unity, XRKit, AWS Gamelift, XAML, git.

○ Software Engineer at DNVGL

May 2017 - August 2017 | Høvik, Norway
Developing a PoC design review application in Unity.
Technology: C#, Unity, XRKit, git.

○ Software Engineer at Cisco Systems Inc.

May 2016 - August 2016 | Lysaker, Norway
Creating a data visualization diagnostics tool for debugging Cisco webservices.
Technology: Java, Spring, Maven, git.

○ Software Engineer at Accenture PLC

June 2014 - October 2015 | Lysaker, Norway
Implementing integration logic at NAV's modernization project.
Technology: Java, Spring, Maven, SVN.

Summary of education

○ Master's degree in computer science

Department of Informatics, University of Oslo
August 2015 - June 2017, Oslo

○ Bachelor's degree in computer engineering

Oslo and Akershus University College
August 2011 - June 2014, Oslo

Experience

Senior Software Engineer at Aalsauet Consulting (ENK)

September 2023 – Present, Oslo

“FourPro Solutions builds staggering and powerful logistics software, that is easy to learn and designed to collaborate across your entire value chain in efficient and sustainable ways. Connect systems, share and contextualize data without replacing any legacy systems across your business network, see hidden trends and have all the insights when you need it. It’s the platform that comes packet with integrations and turn-key apps that are and ready to go. Regular software updates keep things up to date and running smoothly. And if you need to scale up, it’s just a few clicks away – since we are built on top of Microsoft’s global infrastructure.”

Andreas worked as an independent senior consultant and project lead bringing up a new product for FourPro Solutions AS: FourPro3DMaps. This product enables customers to see their existing logistics and supply chain data directly represented in a highly accurate and interactive 3D map. Through this, users can access real-time geo-tracked data, such as easily navigating the location of all their equipment and vehicles (cargo, ships, forklifts etc.), issue commands, such as placing an order, and organize their yard and processes through an intuitive user interface.

The application is built with the Unity game engine using the Cesium 3DTiles framework for fetching geometric data and rendering it, and FourPro Solutions’ internal APIs for fetching customer specific data.



Fig 1: The application receives regular AIS updates from services such as Barentswatch and updates the position of all vessels to reflect their real-world location.

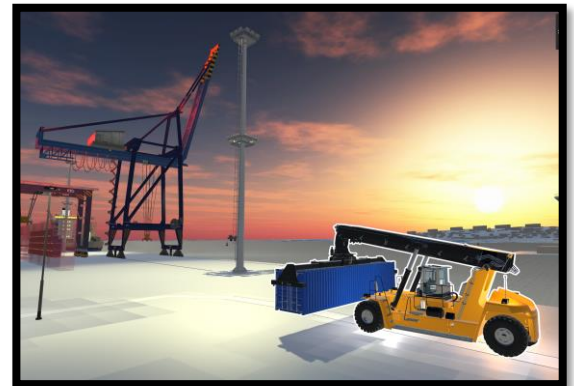


Fig 2: Vehicles respond to real-time events such as when a container is moved and replicates this in the application.

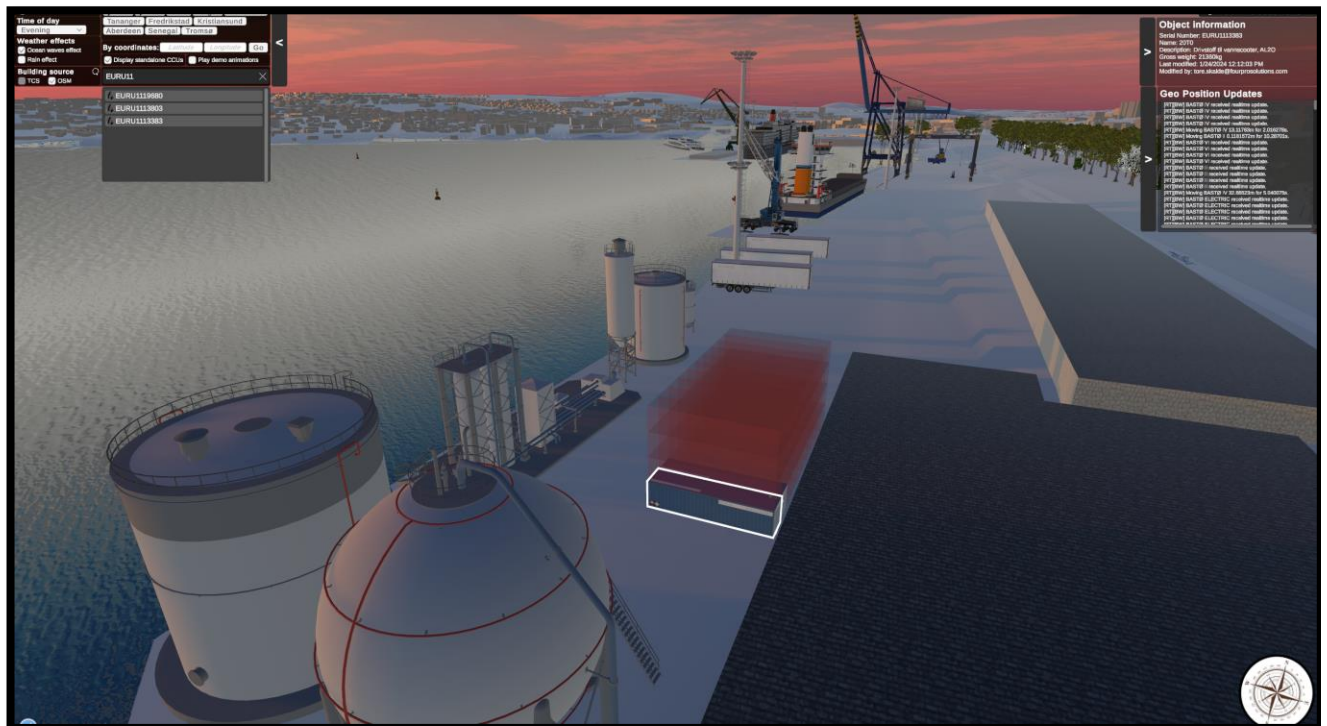


Fig 3: All containers are searchable by tracking IDs, which can be clicked to quickly jump to and highlight the desired container. If the container belongs in a stacking area (often called stacking chart or diagram) this is also displayed to indicate available space for additional containers.

Experience

Senior Software Engineer at Apple Inc

November 2019 – November 2023, Barcelona

“Apple's Machine Learning and AI team transform every Apple product and because we fully integrate hardware and software, we can collaborate to deliver amazing experiences while protecting user data. The Siri and Languages Technologies team build high quality solutions for all of Apple’s international customers, and deliver them to their favorite Apple devices, in over 40 languages and dialects.”

As a Software Engineer in Apple Global Product Experience Andreas was responsible for the end-to-end quality of the Norwegian Siri voice assistant - as well as being responsible for several projects that spanned multiple languages - involving both machine learning, data science and software engineering work.

Responsibilities included:

- Planned, designed and implemented several on-device features and improvements.
- Extensive analysis of top user facing issues for Siri in EMEA locales
- Made several continuous improvements to ML model accuracy in the understanding system, the speech recognition system etc.
- Lead migration work to new technical stack for NL/ML.
- Coordinated cross-functional teams.
- Conducted technical interviews and was responsible for onboarding several new employees.

Project excerpt: Personal Hotspot with Siri

- Andreas led and developed a new Siri feature for enabling, disabling and checking the current state of Personal Hotspot (shared internet) on all relevant iOS devices.
- This feature enables the user to e.g. turn on/off their personal hotspots, check if it’s currently on and interact with the discoverability of the network (e.g. the hotspot can be enabled but not discoverable in the Wi-Fi list of others).
- This work involved Swift, Objective-C and C++ work in four separate code repositories, as well as design-mockup work, ML/NLP work and release management work.
- The feature got shipped to all iOS builds worldwide with the release of iOS 17 September 18, 2023



Fig 1: 2-turn Siri interact with additional settings.



Fig 2: Personal hotspot gets enabled after confirmation.

Experience

Dimension10 AS - Oslo — Head Of Engineering

August 2017 - October 2019

Dimension10 develops a Virtual Reality Collaboration Platform for B2B usage, where our primary customer segment is engineering and design professions where 3D model are typically used, such as: Architects, Industrial Engineers, Construction planners etc. At Dimension10, Andreas typically worked a lot with feature implementation in Unity - a game engine -, C++ model importing libraries and network services, usually hosted at AWS.

Responsibilities included:

- Technical candidate reviews, conducting technical interviews and ensure an efficient onboarding process.
- Responsible for planning implementation sprints and discuss this with the companies CEO and CTO.
- Responsible for assigning tasks, provide time estimates, performing code reviews and help the other developers test their features.
- Responsible for the overall architecture and researching new technology choices - e.g choice of language and framework in new services (we mostly used C#, C++, Rust and some Go).

Project excerpt

Built a STP 3D model importer for Unity based applications by adapting an open source C++ library. This got loaded as a DLL, written to shared memory which read into the Unity MonoBehaviour framework. This enabled several clients - predominantly from oil and gas - to import their 3D models into our Unity-based VR collaboration platform to interact with it - thus building new use cases for the product.

DNV GL - Høvik — Associate Software Engineer

May 2017 - August 2017

As a continuation of his Master's thesis, Andreas continued to work with DNV GL on a working prototype of a virtual reality design review application. During this period more functionality was added, like model file importing, and the POC was presented and discussed to multiple parties.

Cisco - Lysaker — Software Engineer

May 2016 - August 2016

Software developer at Cisco's cloud solution for telepresence video conferencing solutions. Here Andreas developed a data visualization tool to be used on different test suites. This application parsed a multitude of log files and queried various diagnostic APIs to visualize exchanges (typically requests and responses) between various devices and cloud services in a sequence diagram.

Accenture - Oslo — Software Engineer

June 2014 - October 2015

Andreas worked as a Software Developer Associate in Accenture Technology – Advanced Technology and Architecture - with a focus on back-end and integration development in the Health and Public services sector (H&PS). In his time at Accenture, Andreas participated in several courses hosted by Accenture and was also a consultant at projects in the

Education

Department of Informatics, University of Oslo - Oslo— Master's Degree in Computer Science

August 2015 - June 2017

The Master's Degree consisted of mostly of subjects related to software engineering design patterns, networking, machine learning and virtual reality.

The courses included in this degree were the following:

- Algorithms for artificial intelligence and natural language processing (NLP, ML),
- Problem solving with high level languages (Python),
- Open source software development (Java frameworks),
- Search technologies (machine learning etc),
- Semantic web technologies (RDF, OWL, Formal semantics),
- Protocols and routing in the Internet.

The Master's thesis was titled "Implementation of a virtual reality design review application using vision-based gesture recognition technology" and is accessible here: <https://www.duo.uio.no/handle/10852/56905>

Oslo and Akershus University College - Oslo— Bachelor's Degree in Computer Engineering

August 2011 - June 2014

Course subset:

- Discrete Mathematics + Programming (Java)
- Software Development (Java) + Databases (SQL),
- Systems Development + Algorithms and Data structures (Java)
- Operating Systems (Bash, PowerShell, Perl)
- Computer Architecture and Networking (Assembly)
- Web Applications (.NET, C#, Ajax, Linq)
- App Development (Android-Framework, Java, XML)
- Computer/Information Security
- Final year project/main thesis (AngularJS-Hybrid app)