# CARL JOHNELL

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## ABOUT

Born in 1993 in Sweden. B.Sc. software engineering and M.Sc. computer science. Currently software engineer at Apple in the Maps 3D Vision team. Interested in computer vision, machine learning, mathematics, and systems programming.

## EDUCATION

**Chalmers University of Technology** 2018 - 2020
M.Sc. Computer Science (4.82 / 5.0)

**Blekinge Institute of Technology (BTH)** 2012 - 2015
B.Sc. Software Engineering

## SKILLS

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|---|---|
| **Areas** | Algorithms, Computer Vision, Machine Learning. |
| **Technologies** | Docker, Git, Matlab, PyTorch, SciPy ecosystem, scikit-learn. |
| **Programming Languages** | C, C++, Go, Java, Python. |

## PROFESSIONAL EXPERIENCE

**Apple** Jun 2020 -
*Software Engineer* *Gothenburg*

· Apple Maps 3D Vision.

**Qualisys** Jun - Aug 2019
*Summer Internship* *Gothenburg*

· Qualisys develops motion capture and 3D positioning solutions based on optical tracking of reflective markers. I completed two projects during the internship.

· Middleware in Python for Qualisys Track Manager (QTM) and Lab Streaming Layer (LSL). It was added as a git submodule to the official LSL repository. See github.com/qualisys/qualisys_lsl_app and github.com/sccn/labstreaminglayer.

· OpenVR driver in C++ for QTM. This makes it possible to replace the default tracking of HTC Vive VR headsets with Qualisys' tracking system. See github.com/ValveSoftware/openvr.

**Fraunhofer-Chalmers Centre for Industrial Mathematics** Jan - May 2019
*Contracted Student* *Gothenburg*

· Spent few hours a week at the Systems and Data Analysis department to help with smaller development tasks on a project.

**Compuverde (acquired by Pure Storage)** Aug 2015 - Jan 2018
*Software Developer* *Karlskrona*

· Designed, implemented & improved several features in the Software Defined Storage (SDS) product. Main development was in C++ and various test and utility scripts were in Python. I learned a lot about storage, virtualization, multitude of different networking protocols, multi-threading, server programming, and more.

· **Selection of my contributions**

· Implemented features and improvements on the server-side for several different networking protocols: Kerberos, LDAP, NFS, NNTP, NTLM, RPCSEC_GSS.

· Developed an Amazon S3 server compatible with a subset of the official API.

· Added support for dynamic configuration of VLANs and routing tables in Linux. This made it easier to isolate/separate the different types of network traffic (clients, cluster, management).

· Improved the main build script which reduced the time of incremental debug builds by 90%.

## PERSONAL PROJECTS

**Dingo** github.com/cjo5/dingo

· Compiler for a C-like programming language.