

# Dirk Hornung, Software Engineer

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## About me

I am Software Engineer by passion. During my 5+ years of experience as a professional developer I implemented a C++ fitting routine extracting model parameters from CERN. I was part of the core team of Fresenius Medical Care implementing a Data Lake. I develop embedded systems in my personal lab.

## Professional Experience

- Present **Software Engineer**, Counter Abuse Technologies, *RMIT Group Supporting Google*  
Mar 2020
  - Implemented WebRTC video streaming frontend and FaceMesh Tensorflow model.
  - Implemented accessibility features.
  - Ensured quality with unit and integration tests applying TDD.
- Present **CTO & Co-Founder**, Server Infrastructure, *Aplikato* (Startup)  
Jan 2020
  - Advising a team of four software developers.
  - Built server and networking infrastructure. Implemented Kubernetes with dynamic NFS storage provision and Jenkins CI/CD automation.
- Mar 2020 **Data Scientist**, Data Lake Architecture, *Fresenius Medical Care*  
Jan 2020
  - Architected the storage, query and application layer of a Data Lake using Kubernetes, MinIO, Parquet, Presto and Ranger (see: [Data Lake Architecture at Fresenius Medical Care](#)).
- Apr 2019 **CTO**, Ethereum Blockchain, *CYSAE* (Startup)  
Mai 2018
  - Led a two people developer team.
  - Implemented an Utility Token to allow for the trading of legal services.
  - Implemented a web application anchoring documents in the Ethereum blockchain using Solidity, React, GraphQL, S3 and Postgresql hosted on AWS EKS.
- Apr 2018 **CTO & Co-Founder**, Fintech Chatbot, *Alda* (Startup)  
Oct 2017
  - Implemented a Fintech Chatbot using React, Flask, Postgres and Tensorflow hosted on AWS (see: [How to build a chatbot from zero](#)).

## Education

- Jul 2019 **Ph.D., Theoretical Physics**, *Universitat Autònoma de Barcelona/Aix-Marseille Université*, A grade  
Oct 2015 The QCD Strong Coupling from Hadronic Tau Decays.
  - Implemented a parallelized and unit tested C++ fitting routine to extract model parameters using data provided by CERN.
- Sep 2015 **M.Sc., Particle Physics**, *Universitat Autònoma de Barcelona*  
Oct 2014 1-Loop Anomalous Dimensions of 4-Quark Operations.
- Sep 2014 **B.Sc., Condensed Matter Physics**, *Goethe University*  
Oct 2011 Band Structure Studies of Graphene

## Main Skills

- Languages C++, Python, Bash, Ruby, JavaScript, Java, SQL
- Style TDD, OOP, dependency injection, pair programming, CI/CD
- Stacks Node.js, Express, React, Vue, Flask, Jest, AWS
- Software Git, Make, Cmake, Bazel, Docker, Kubernetes, PostgreSQL, NFS, Jenkins

## Awards

- Imagine Silicon Valley Finalist
- Winner: Imagine Developer Dreamer
- Best Fintech Pitch at "Fintech War" (1000 EUR)
- MetLife Iberia Financial Inclusion Award (4000 EUR)
- Winner Adidas Hackathon Barcelona (6000 EUR)