Dirk Hornung, PhD
Software Engineer

Languages

German	● ● ● ● ●
English	● ● ● ●
French	● ● ● ●
Spanish	● ● ● ●

Skills

Data Science	▬
Software Engineer	▬▬▬
Prototyping	▬▬

Programming Languages
TypeScript, JavaScript, Python, Java, C++, SQL

Style
TDD, BDD, OOP, dependency injection, CI/CD

Stack
React, Vue, Angular, React Native, Node.js, Express, Flask, Jasmine, Mocha, Googletest

Software
Kubernetes, Docker, NFS, Git, MySQL, PostgreSQL, MongoDB, Serverless, Fusion 360, Adobe Suite, AWS, Google Cloud

Hardware
server architecture, networking, CNC, Arduino, ESP32, 3D-Printing, Electronics

About me

I am Software Engineer by passion. I adore learning new technologies, facing new challenges and setting myself ambitious goals. I take practical decisions, but enjoy having deep dives. I am an independent problem solver, but also a good teamplayer. I spend my freetime experimenting with servers and electronic parts.

Professional Experience

present -

Software Engineer, *Google (TVC)*
- Implemented a WebRTC video streaming front end.
- Throughout tested the application using unit and integration tests.
- Implemented accessibility features.
- Implemented the audit recording infrastructure.
- Was responsible for the UX/ UI alignment and implementation.

January 2020 March 2020

Big Data Solution Architect, *Fresenius Medical Care*
- Coordinated the creation of a data lake.
- Architectured a scalable storage, query and application layer of the Data Lake (Kubernetes, MinIO, Apache Parquet, Presto, Ranger).
- Closely worked with the technical team responsible for the Data Lake implementation.
- Designed the Data Goverment roles and processes.
- Performed global stakeholder alignment to harmonize the different data systems of EMEA, USA and Asia.

Mai 2018 February 2019

CTO, *CYSAE (Legaltech)*
- Led the developer team (2 people).
- Created an Utility Token, within the Ethereum Blockchain, that allows to buy legal services by paying with a Cryptocurrency.
- Created a web application that anchors documents in the Ethereum Blockchain, to establish secure contracts.
- Developped a DAO to remotly hold decentralised board meetings.

October 2017 April 2018

CTO & Co-Founder, *Alda (Fintech)*
- Created a Fintech Chatbot that serves as a personal financial advisor.
- Created a reusable chat component.
- Integrated the app in varius Wordpress and Liferay installations.

Education

10/15 - 07/19   **Ph.D., Theoretical Physics**, UAB (Spain) / AMU (France)
                        Thesis: The QCD Strong Coupling from Hadronic Tau Decays

10/14 - 09/15   **M.Sc., Particle Physics**, UAB (Spain)
                        Thesis: 1-Loop Anomalous Dimensions of 4-Quark Operators

10/11 - 09/14   **B.Sc., Condensed Matter Physics**, GU (Germany)
                        Thesis: Band Structure Studies of Graphene

Awards

- **Imagine Silicon Valley Finalist**.
  One of ten finalists (>500 applicants) for a trip to Silicon Valley trip.
- **Winner: Imagine Developer Dreamer**.
  Got selected to participate in the "Imagine-Express-Train".
- **Best Fintech Pitch**
  Awarded 1st price at Fintech Stage's event "Fintech War" of over +16 fintech startups plus a 1k€ cash price
- **Winner Adidas Finals Hackathon**
  Created the "Adidasum" ICO for an API data marketplace.
- **MetLife Iberia Financial Inclusion Award**
  Awarded a 4K€ cash price at MetLife Iberia to promote Financial Inclusion.
- **Winner Adidas Hackathon Barcelona**
  Created surveillance system to track and identify customer satisfaction.

Projects

Bare Metal Kubernetes Cluster
- Built a 12 core, 32GB RAM, 2x 256GB SSD RAID1, 2x 8TB RAID1 server from used parts.
- Setup a Kubernetes production installation.
- Setup an NFS server for dynamic storage provision.
- Installed an dedicated OpenWRT router, which is used as DDNS and VPN.
- Secured server with an UPS and automatic backups.

Surveillance System
- Designed circuit for ESP32 Cam to be connected to mains voltage.
- Compiled and installed C++ RTSP server.
- Designed 3d model and 3d printed case for camera circuit.
- Installed 100m lan cable distributed via three switches.
- Setup Zoneminder surveillance software on private Kubernetes Cluster.

Lathe Machine
- Designed and soldered electrical circuit.
- Designed 3d model of a lathe machine.
- Build machine using welding and flexing techniques.