

## Dirk Hornung, PhD



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### Languages

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

### Skills

Data Science	■■■■■
Frontend	■■■■■■■
Backend	■■■■■■■
Blockchain	■■■■
Prototyping	■■■

#### Data Science

Python, Tensorflow, Keras, Hadoop, Pandas, Numpy, Matplotlib, Deep Learning

#### Frontend

JavaScript, TypeScript, React, Angular, React Native, Redux, Flutter, Jasmine, Mocha, CSS, HTML

#### Backend

AWS, NodeJS, Express, MySQL, PostgreSQL, MongoDB, DynamoDB, Serverless, Flask, Docker, Kubernetes

#### Blockchain

Ethereum, Solidity, Smart Contracts, Hyperledger Fabric, Token Economy, ICO

#### Prototyping

Arduino, C++, Fusion 360, 3D-Printing, CNC, Electronics

## Professional Experience

- 05/18 - 02/19 **CYSAE** - Legaltech Startup  
CTO (2 Developers)  
**Utility Token for Cuatre Casas**  
Created an Utility Token, within the Ethereum Blockchain, that allows to buy legal services by paying with a Cryptocurrency.  
**Stamper**  
Created a web application that anchors documents in the Ethereum Blockchain, to establish secure contracts.  
**Boardchain**  
Developped a web application to remotly hold decentralised board meetings.
- 10/17 - 04/18 **Alda** - Fintech Startup  
CTO & Co-Founder (1 Developer)  
**Alda Chatbot**  
Created a Fintech Chatbot that serves as a personal financial advisor.  
**Chatbot UI**  
Created a mobile app for the Chatbot, which has been integrated in serveral companies.

## 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 and Modified Graphene Structure

## Awards

- **Imagine Silicon Valley Finalist.**  
One of ten finalists of more than 500 applicants to be sponsored for a 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 keep promoting Financial Inclusion.
- **Winner Adidas Hackathon Barcelona**  
Created surveillance system to track and identify customer satisfaction.

## Projects

12/19 - present	<b>1++ App</b> Front-End	Created an Angular Ionic hybrid app connected to Firebase. Designed NoSQL database architecture. Used RxJS Observables. Used TDD with Jasmine and Karma. <a href="#">JavaScript</a> <a href="#">Angular 8</a> <a href="#">Ionic</a> <a href="#">RxJS</a> <a href="#">Firebase</a> <a href="#">Jasmine</a> <a href="#">Material Design</a>
10/18 - 02/19	<b>Utility Token</b> Blockchain	Created an Ethereum ERC-20 compliant utility token for Cuatre Casas. Created a Node-Express REST API connected to an Ethereum Node to manage Token interactions. Used Truffle and Mocha for Unit-testing. <a href="#">JavaScript</a> <a href="#">Node</a> <a href="#">Express</a> <a href="#">REST</a> <a href="#">Mocha</a> <a href="#">Ethereum</a> <a href="#">Solidity</a> <a href="#">Truffle</a>
04/18 - 11/18	<b>Stamper</b> Full-Stack	Created an React-Redux App with an Prisma-GraphQL backend hosted on AWS ECS. Used AWS Cognito for authentication and AWS S3 for storage. <a href="#">React</a> <a href="#">Redux</a> <a href="#">JavaScript</a> <a href="#">Prisma</a> <a href="#">GraphQL</a> <a href="#">AWS-ECS</a> <a href="#">AWS-Cognito</a> <a href="#">AWS-S3</a>
04/18 - 02/19	<b>Boardchain</b> Blockchain	Created an React-Redux App connected to a series of Smart Contracts hosted on the Ethereum Blockchain to remotely hold transparent and immutable board meetings. <a href="#">React</a> <a href="#">Redux</a> <a href="#">JavaScript</a> <a href="#">Solidity</a> <a href="#">Ethereum</a> <a href="#">Smart Contract</a> <a href="#">Truffle</a>
10/17 - 04/18	<b>Alda Chatbot</b> Data Science	Created an natural language processor to detect user intents. Connected the Facebook API, Saltedge API and Dialogflow API to create a Chatbot interface able to respond to many financial requests. Hosted serverless microservices as AWS Node and Python Lambdas with a PostgreSQL database as backend. <a href="#">Data Science</a> <a href="#">NLP</a> <a href="#">AWS-Lambda</a> <a href="#">PostgreSQL</a> <a href="#">Python</a> <a href="#">JavaScript</a> <a href="#">Node</a> <a href="#">Serverless</a>
10/17 - 04/18	<b>Alda PWA</b> Front-End	Created a React PWA for the Chatbot as UI alternative for Facebook Messenger. <a href="#">React</a> <a href="#">Redux</a> <a href="#">AWS-Amplify</a> <a href="#">AWS-Dynamodb</a> <a href="#">Serverless</a> <a href="#">AWS-Cognito</a>
09/16 - 09/17	<b>WeGoLoco App</b> Full-Stack	Created a native iOS App written in Swift. Used AWS-Cognito for authentication, AWS-RDS (PostgreSQL) as a database and AWS-S3 for storage connected via AWS-Lambda Serverless microservices. <a href="#">Native App</a> <a href="#">Swift</a> <a href="#">AWS-Cognito</a> <a href="#">AWS-RDS</a> <a href="#">AWS-Lambda</a> <a href="#">AWS-S3</a> <a href="#">PostgreSQL</a>
02/16 - 08/16	<b>FuldaCity App</b> Front-End	Created a native App written in React Native with a MongoDB backend. <a href="#">React Native</a> <a href="#">JavaScript</a> <a href="#">MongoDB</a>
01/16 - 06/15	<b>Tennisspot</b> Full-Stack	Created a Web app for a local tennisclub, which is still used by > 200 Persons. Used LAMP with PHP and MySQL. <a href="#">PHP</a> <a href="#">MySQL</a> <a href="#">jQuery</a> <a href="#">LAMP</a>