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JULIUS WILLEMS

Software Engineer

ABOUT ME

I'm a committed Software Engineer looking for a new challenge and to make a new step in my career. I'm always curious to explore new technologies and to find suitable use cases for them. I rather focus on one product, than switching between too many projects. I can be pragmatic, but instead of a quick fix, I'd spend a little more time coming up with a clean solution.

I appreciate a diverse team that shares experiences and solves problems together.



EXPERIENCE

2019 – now
part time - 60%

Full-Stack Software Engineer

- Architecture, design, and implementation of new features and bug fixes in all Staffcloud applications.
 - Planning and lead of refactoring back-office application to support product-led growth strategy. CRM, purchasing and invoicing, tenant management, pricing
 - Development of a new Progressive Web App in the Staffcloud ecosystem. Mobile first, developed for project managers of our customers
 - Setup of CI/CD pipelines and AWS infrastructure (Bitbucket pipelines, EC2, RDS, ELB)
 - Code review of pull requests
 - Scrum workflow with an international team and close collaboration with Product Owner
 - Helping juniors and new team members getting up to speed
- PHP / Laravel / React / MySQL / AWS / PWA



2017 – 2019
part time - 60%

Quality Assurance Analyst

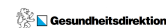
- Development of comprehensive test-suites for our REST API.
 - Development of Appium test-suites for our native mobile applications.
 - Functional testing of all Staffcloud applications
 - Customer on-boarding and support
- Selenium / Appium / Atlassian Suite / Postman / Freshdesk



2012 – 2016
part time - 30%

Student Assistant

- Administration



2009 – 2012
part time - 60%

Apprenticeship

- Commercial apprenticeship



EDUCATION

2020 – 2022

MSc. Computer Science

Major: Software Systems

Minor: Data Science

Publications:

- PMD-Track: Portable Medical Devices Real-time Inventory and Tracking
- Indoor Real-Time Locating System (RTLS) based on Bluetooth Low Energy (BLE)



2017-2020

BSc. Computer Science

Major: Software Systems

Minor: Information Systems

Publications:

- On-Chain IoT Data Modification in Blockchains
- Design and Prototypical Development of a GDPR and Swiss Law Compliant Blockchain

2016 – 2017

BSc. Computer Science

Not completed

ETH zürich

2009 – 2016

Eidg. Matura, BMS, Apprenticeship

Eidg. Matura @KME

Eidg. Berufsmaturität @Wirtschaftsschule KV Wetzikon

Apprenticeship in Administration @KV Zurich

PROJECTS

ccs4dt

Visitor tracking for fairs and events
github.com/julwil/ccs4dt 

Track the position and path of trade visitors to analyze traction and gain insights into booth performance. To improve tracking accuracy, multiple sensor types can be combined (WiFi, RFID, camera). Together with a fellow UZH student, we developed a new system that correlates measurements of different sensors and predicts the actual position of visitors.

- Expose REST API for ingestion of measurement data
- Kalman Filtering to remove noise
- Coordinate system standardization
- Clustering and prediction
- Persistence to InfluxDB and exposure over REST API

Python / Pandas / InfluxDB / Flask

dataloc GmbH


Real-Time Inventory Tracking for Hospitals
cliniq.ch 

As a side project, I founded dataloc. It's mission is to help hospital staff find portable inventory (wheelchairs, beds, infusion pumps) within the hospital building to save time and increase efficiency.

- Bluetooth Low Energy Beacons (tag inventory)
- Crowd-sourced, distributed inventory tracking with mobile App (on staff's smartphone)
- Centralized processing of tracking data
- Location prediction of inventory
- Front-end to visualize inventory location

Bluetooth Low Energy / Python / MQTT / Laravel / React

NYC BnB Explorer

Explore the neighbourhoods of New York Airbnbs
github.com/UZHASE 

Together with 3 fellow UZH students we developed a tool to explore and assess the neighbourhoods of Airbnb listings in NYC. We collected public datasets on NYC about crime, rodent, and noise complaints. The user can explore these datasets within the context of a particular Airbnb listing he/she is interested in

- Display Airbnb listings on a NYC map
- Heatmap layer of crime incidents can be toggled on top of the map
- Heatmap layer of rodent sightings can be toggled on top of the map
- Heatmap layer of noise complaint incidents can be toggled on top of the map

Python / Flask / React

DeathNote

Smart contract to settle an inheritance
github.com/UZHBCON/deathnote 

In the event of a death of a crypto currency holder, heirs can't access the funds without the deceased's private key. Together with 3 fellow UZH students, we developed a smart contract to address this problem (we were dead serious)

- Smart contract on the Ethereum blockchain
- Owner charges the smart contract and specifies:
 - List of heirs along with their shares
 - List of voters along with a policy (e.g. m/n votes required)
- Voters can vote for the owner's death. As soon as policy is met, owner is considered dead.
- Without the owner's objection, smart contract funds are released to heirs after 30 days

Blockchain / Ethereum / Solidity / React

BAZO

Blockchain data modification for GDPR compliance
github.com/julwil/bazo-miner 

GDPR and its application and compliance issues with blockchains is gaining attention. During my Bachelor thesis I developed a solution that allows fine-grained update and erasure operations on transaction fields. A cryptographic primitive called "Chameleon Hashing" enables the efficient calculation of hash collisions. These collisions can be used to modify the content of transactions

- Implementation of Chameleon Hash function library in Go
- Integration of new hashing mechanism in existing BAZO blockchain and its protocol
- Implementation of "update transactions" to modify on-chain data
- Implementation of a web-based block explorer to visualize the results

Blockchain / Go / React

LANGUAGES

German - native

English - fluent

French - basics