



Sebastian Engel-Wolf

Full-Stack Developer / Founder

Lacking skills like fluent French, Vue.js and patience I made my way becoming a software developer and founder. My favorite work lies in the intersection between Front End and Back end while keeping a good mood in the teams, managing communication and ensuring plenty of exchange.

Contact Me

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Education

- **2012 - 2015**
TU Munich, Georgia Tech Atlanta
Master, Molecular Biotechnology
- **2008 - 2012**
University of Magdeburg, Bordeaux
Bachelor, Bio-systemstechnology
- **2009 - 2015**
Scholarship of Heinrich Böll
foundation

Expertise Skill

R + R-Shiny

Javascript - React, Node

Python

Cloud (Google, AWS)

Data Science

Project Lead

Language

German

English

French

Work Experience

- **functionHR | 2024 - now**
 - Full Stack Developer

R-Shiny **React** **Gitlab CI-CD** **MongoDB** **Figma**
- **Self-employed | 2019 - 2024**
Scientific software developer
 - at: Roche / Boehringer Ingelheim / functionHR
 - R-Shiny contest winner (worldwide)
 - Development of an R-shiny based platform for the evaluation of clinical studies
 - Automation frameworks for R packages

R-Tidyverse **R-Shiny** **Python** **PostGres SQL**

Azure AD **Jenkins** **AWS EC2** **MongoDB**
- **Keepoala | 2020 - 2024**
Co-Founder
 - Development of an App + Web framework to reduce returns in E-commerce. Logistik

Javascript **React** **ReactNative**

Gitlab CI-CD **Google Firebase** **AWS ECS**
- **Roche | 2017- 2019**
Biostatistician
 - bioWARP - the largest Shiny App in the world
 - Diagnostics data analytics

R-Shiny **Python** **Shiny-Proxy** **Azure**
- **Insilico Biotechnology | 2015 - 2017**
 - Consulting Biotechnological production

Java **Python** **Docker** **OracleDB**

The human behind

- Backpacker - Kyrgistan, Turkmenistan
- married, 2 children = 3 girls at home
- Runner, Hiker, Cyclist
- Jazz and Headphone freak



Expertise Skills - 1/3

● R + R-Shiny

10/10

Shinyproxy,
tidyverse, roxygen

Winner of the R-Shiny Contest 2021

One App in the official shiny gallery (City Cycle Race)
>5 years of experience

- bioWARP, Roche employee, targets shiny app in the world
- Roche Pharma AG – NEST/TEAL R-Shiny Reporting Framework
- Boehringer Ingelheim – DaVinci Clinical reporting framework
- functionHR – HR Dashboard, Self Service HR Software
- Roche Diagnostics - Measurement Visualization
- Roche Diagnostics - Clinical Trial analytics

● Web Development

10/10

HTML, CSS, Javascript,
ReactJS, NodeJS,
ReactNative, Typescript, PHP

Web developer since the age of 13

founder of a E-Commerce start-up using only web
technologies
>22 years of experience

- Keepoala - WebApps + Native Apps
- functionHR – HR Dashboard, Self Service HR Software
- kitagluhwuermchen.de, naju-thueringen.de Web-Support

● CI / CD

9/10

GitlabCI, Github
Actions, Jenkins,
Docker

Development of R-package + R-Shiny release build
pipelines for several project. Code coverage +
documentation testing
Fully automated native App release for Keepoala
Apps
Fully automated WebApp deployment on AWS ECS
with AzureAD / Firebase authentication
>5 years of experience

- Keepoala - WebApps + Native Apps
- functionHR – HR Dashboard, Self Service HR Software
- Roche Pharma AG – NEST/TEAL R-Shiny Reporting Framework

● Cloud

8/10

Google Cloud
AWS - EC2, ECS, Cloudwatch,
S3, RDS

Development of a whole Backend infrastructure
for Keepoala with Google cloud functions
Automated build and deploy setup of R-Shiny apps
in AWS EC2
Fully automated WebApp deployment on AWS ECS
with AzureAD / Firebase authentication

- Keepoala - WebApps + Native Apps
- Roche Pharma AG – NEST/TEAL R-Shiny Reporting Framework

Expertise Skills - 2/3

● Database SQL

8/10

MongoDB, SQL,
Firestore

SQL developer since the age of 13

MongoDB usage in multiple customer projects
>22 years of experience

● Insilico Biotechnology - employee, Consultant in biotechnological production - (OracleDB)

● bioWARP, Roche employee, largest shiny app in the world (Oracle DB, PostgreSQL)

● functionHR – HR Dashboard, Self Service HR Software (MongoDB)

● Roche Diagnostics - Measurement Visualization - (MongoDB)

● Keepoala - WebApps + Native Apps - (Firestore, PostgreSQL)

● Python

9/10

Python developer since age of 15

Mostly used in free time and hobby projects to
develop API solutions or hardware devices
>20 years of experience

● Insilico Biotechnology - employee, Consultant in biotechnological production - (pandas)

● comdirect-YNAB-API - github package

● RadioFlask - github package

● DataScience

9/10

Data visualization,
Data cleaning,
REST-API, XML,
JSON, CSV

Data Scientist by heart

Data Science was the key to becoming a good
Bioinformatician. During my studies I started
cleaning huge microarray datasets, visualizing
them with MATLAB, R and Python. All skills were
needed during my projects and jobs.
>10 years of experience

● Insilico Biotechnology - employee, Consultant in biotechnological production - (OracleDB)

● bioWARP, Roche employee, largest shiny app in the world

● Roche datascience challenge - Roche employee - 3rd price

● Roche Diagnostics - Measurement Visualization

● Flixbus, working student data science and controlling



Expertise Skills - 3/3

- **Project Lead**

SCRUM, Kanban,
Agile

7/10

As a Lead developer in certain projects I was applying the Scrum way of working. As a Co-Founder of Keepoala I introduced the process for our whole development pipeline and was leading a team of 10 developers.
>3 years of experience

- Roche Pharma AG – NEST/TEAL R-Shiny Reporting Framework

- Keepoala - WebApps + Native Apps - (Firestore, PostGRESQL)

- **Molecular Oncology**

qPCR, PCR,
Western-Blot, Cell
Culture,
Bioinformatics

5/10

My Bachelor thesis and my Master studies were highly based on topics in Molecular Oncology. Both were released as scientific papers. During my Master's I intended a course specialized on Molecular Oncology with only 4 participants and the professor for 2 semesters.

- INSERM Bordeaux - Oligomerization in endoplasmic reticulum stress signaling
- qPCR, Western Blot

- TU Munich - Master Molecular Biotechnology - Microarray analysis, special course in molecular oncology

- Insilico Biotechnology - employee, Consultant in biotechnological production - (Oncological signalling network reconstruction)

Projects 1/6

● **functionHR – HR Dashboard, Self Service HR Software**

Position: Full Stack developer (first self-employed, then employed)

Timeframe: 08.2023 - now

Technologies: R, R-Shiny, Docker, Figma, ShinyProxy, R-tidyverse, ReactJS, GitlabCI, REST-API

Description

FunctionHR is a company that specializes in the development of a self-service HR platform. The platform is designed to provide a user-friendly interface for HR processes and utilizes technologies such as R-Shiny, React, HTML, Javascript and ReactJS. Within this framework, a comprehensive HR dashboard was implemented that presents key HR performance indicators.

As a full-stack developer, I provide support in all areas of platform development. The self-service tool allows the creation of surveys. The HR dashboard contains key metrics to assess organizational health and performance, including:

- Employee satisfaction: measuring employee satisfaction through surveys and feedback mechanisms.
- Turnover rate: Monitoring the rate of employee turnover within the organization.
- Recruitment efficiency: Evaluation of the effectiveness of the recruitment process

● **Keepoala - WebApps + Native Apps**

Position: Co-Founder, CTO

Timeframe: 07.2020 - 04.2024

Technologies: Javascript, React, React Native, Gitlab CI-CD, Google Firebase, AWS ECS, R-Shiny, Postgres SQL, GitlabCI, iOS, Android, REST-API, XML

Description

Keepoala is the first app that tries to avoid returns in two ways. Customers who avoid returns are rewarded via a loyalty program. A returns portal is used to ask customers why they have returned items. These insights are merged with various data connections of the online stores in one system. On a dashboard, the store can then see why returns occur and can use a wide range of adjustments to avoid this.

Technically, Keepoala consists of 16 pieces of software, including an iOS and an Android app, several WebApps in ReactJS that run in AWS ECS and AWS EC2 systems, R-Shiny apps for data analysis and NodeJS backends for connecting various logistics companies.

B2B customers include happybrush, VRESH, steinehelden.de and others.

Projects 2/6

● Roche Diagnostics - Measurement Visualization

Position: Shiny developer

Timeframe: 01.2021 - 07.2021

Technologies: R Tidyverse, R-Shiny, Jenkins, JIRA, MongoDB, Confluence, AWS EC2, REST-API

Description

At Roche Diagnostics GmbH Mannheim, a leading company in the field of healthcare and diagnostics, I played a key role in a major project. The company specializes in the development of innovative diagnostic solutions. In my position, I contributed to the development of a tool to facilitate the creation of a new diagnostic method.

The tool I developed enabled the efficient collection and visualization of measurement data, which significantly accelerated the development process of the diagnostic method. The project relied on agile methods, using SCRUM for project management and tools such as Confluence and JIRA for collaboration and tracking.

In terms of software development, technologies such as R-Shiny, Jenkins and AWS EC2 were used, demonstrating a commitment to cutting-edge solutions. The database infrastructure was supported by MongoDB to ensure a robust and scalable storage solution for the project.

● Roche Pharma AG – NEST/TEAL R-Shiny Reporting Framework

Position: Shiny developer

Timeframe: 01.2020 - 07.2020 and 04.2019 - 09.2019

Technologies: R-tidyverse, R-Shiny, GitHub, GitHub Actions, Jenkins, Roxygen, strictR coding, AWS EC2, AWS S3, ShinyProxy, REST-API

Description

Roche Pharma AG is an international pharmaceutical company and part of the Roche Group. The company is known for its research and development of innovative drugs and therapies.

NEST is a software development project to create R-based tools for analyzing clinical trial data for exploratory and regulatory purposes. This means that the tools developed will be used for exploration and discovery as well as for meeting regulatory requirements in the field of clinical trials. The main outcome is the teal r package released on GitHub.

In this project, I had the role of development lead for data processing tools and Shiny app modules. In the area of data processing, the project utilizes the R-tidyverse collection. The project's focus on use in clinical trials led to extremely high standards in code testing, code standardization, documentation and automated code deployment.

Projects 3/6

- **Roche Diagnostics - Clinical trial analytics**

Position: Shiny developer

Timeframe: 06.2019 - 12.2019

Technologies: R Tidyverse, R-Shiny, Jenkins, PostGres SQL

Description

Roche Diagnostics develops innovative diagnostic solutions to improve patient care. Roche required a global clinical trial for the approval of a new diagnostic test. Clinical trials are systematic research studies that evaluate medical interventions in humans to assess the safety and efficacy of therapies. Conducting such studies in multiple countries is challenging due to varying regulatory requirements, cultural differences and diverse ethical standards.

To address this challenge, R-Shiny proved to be the solution to facilitate and standardize data analysis across multiple clinical sites worldwide. In my role as lead developer within a study at Roche Diagnostics, I was able to successfully facilitate standardized reports from 6 countries and 15 clinics.

- **Boehringer Ingelheim - DaVinci Clinical reporting framework**

Position: Technical consultant

Timeframe: 06.2019 - 09.2019

Technologies: R Tidyverse, R-Shiny, Confluence

Description

Boehringer Ingelheim is an international pharmaceutical company headquartered in Ingelheim am Rhein, Germany. The company focuses on the research, development and manufacture of drugs in various therapeutic areas, including respiratory diseases, oncology and immunology. The daVinci framework should enable clinical studies to be submitted to authorities with the help of R-Shiny apps. As a consultant, I helped set up the infrastructure, testing library and coding structure for a sustainable execution of the project.

- **comdirect-YNAB-API - github package**
RadioFlask - github package

Position: Python developer

Timeframe: 01.2019 - 12.2020

Technologies: Python

Please find the projects here: https://github.com/zappingseb/comdirect_api
https://github.com/zappingseb/raspberry_pi_internet_radio



Projects 4/6

- **bioWARP, Roche employee, largest R-Shiny app in the world**

Position: Shiny developer, Biostatistician

Timeframe: 04.2017 - 04.2019

Technologies: R + R-Shiny, Python, ShinyProxy, Azure, XML, XSD

Description

bioWARP (biostatistical Web-Applications and R Procedures) is a Shiny application that enables Roche Diagnostics staff to generate validated reports for submission to regulatory authorities. bioWARP also allows people who cannot program in R to apply advanced statistical methods. bioWARP connects to the validated R packages developed at Roche and provides an easy-to-use and elegant user interface. Its modular environment can accommodate an unlimited number of such interfaces. bioWARP now consists of tools for the evaluation of reference ranges, equality by linear regression, precision by variance component analysis and homogeneity by in-house developed equivalence tests.

bioWARP's most important feature is the ability to transfer all statistical evaluations directly into PDF reports. These are validated and can be used directly for submission to regulatory authorities. bioWARP is described by us as the "largest shiny application in the world" as it already consists of 16 tools, has over 100,000 lines of code, more than 500 buttons and interaction elements and continues to grow and grow and grow.

- **Roche datascience challenge - Roche employee - 3rd price - 07.2018**

The Roche Advanced Analytics Data (RAAD) Challenge was an internal competition within the Roche Group to predict the probability a patient will be alive at 1 year after treatment initiation, using Flatiron electronic health record data.

My team won the 3rd price in a world-wide contest providing the 3rd best model predicting patient outcome using R, Machine Learning, XGBoost



Projects 5/6

- **Insilico Biotechnology - employee, Consultant in biotechnological production**

Position: Shiny developer, Biostatistician

Timeframe: 09.2015 - 04.2017

Technologies: R + R-Shiny, Python, Docker, OracleDB

Description

Insilico Biotechnology is a company that specializes in the application of in-silico methods in biotechnology. The company uses advanced computer-aided models and simulations to virtually analyze and optimize biological processes. Insilico Biotechnology thus supports the development and improvement of biotechnological processes, particularly in the fields of medical research and industrial bioproduction.

As a consultant, I supported various customers in the pharmaceutical sector.

- **Connect Magazine, working student**

Position: working student

Timeframe: 04.2015 - 09.2015

Technologies: PHP, SQL

Description

As a working student at the Connect telecommunication and IT magazine I was in charge of fixing urgent bugs in the content management system or the advertisement management system. Most of my work was carried out in PHP, only minor SQL skills required.

- **Flixbus, working student data science and controlling**

Position: working student

Timeframe: 06.2014 - 09.2014

Technologies: Excel, OracleDB

Description

As a working student at the early stage Flixbus (100 employees at that time), I was responsible for the monthly reporting to B2B Bus partners, the urgent data reports to the CEOs and the presentation of monthly data. I was directly reporting to the CEOs Jochen Engert and André Schwämmlein.

Projects 6/6

● INSERM Bordeaux - Groupe Eric Chevet

Position: Bachelor student

Timeframe: 09.2011 - 04.2012

Technologies: PCR, qPCR, cell culture, Western Blot

Description

Inside the laboratory of Eric Chevet I wrote my Bachelor's thesis on Endoplasmatic reticulum stress signaling influencing cancer progression. The summary of my work was published as a book chapter in Progress in molecular biology and translational science.

● Masters in Molecular Biotechnology

Position: student

Timeframe: 09.2012 - 08.2014

Technologies: Bioinformatics, Western Blot

Description

During my studies of Molecular Biotechnology there were two projects to highlight

- 1) A 4 months internship analyzing different micro-arrays from mouse models trying to figure out cancer progression in obese mice
- 2) A 12 months intense course with the professor and 4 students to get to know the basics of molecular cancer signalling.