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Skills

Coding (Selection)

PHP 8.x, Symfony 6.x, Pimcore 11.x	★★★★★
TypeScript/JavaScript, ReactJS	★★★★☆
Python, C++, JAVA	★★★☆☆
OOP, design patterns	★★★★★
Test-driven development (TDD), clean code, consistent coding style in a team	★★★★★
Branching strategies (Git flow) and semantic versioning	★★★★★

Web-Technologies (Selection)

LAMP, containerization of LAMP services	★★★★★
Implementation of Rest APIs Services/API Platform	★★★★★
Implementation of geo-data services, PostgreSQL/PostGIS	★★★★☆
Versioned, redundant and productive delivery of web services (SOA)	★★★★☆

Other Tools (Selection)

Continuous Integration (CI), automated deployments (CD) and test, dev pipelines, GitLab, GitHub	★★★★☆
Jira/Confluence, Redmine, project management	★★★★☆
Machine Learning / automated image recognition, Keras	★★★★☆

Björn Hempel

Software architect, lead software developer with physical background knowledge and machine learning experience

Professional experience

- ① **August 2022 – today** | Lead software developer, Software architect at ressourcenmangel Integral GmbH

Professional software development with **PHP 8.x**, **Symfony 6.x**, **API Platform 3.x** and **PostgreSQL 14.x** (microservices, web services, APIs, business-critical applications, etc.). PIM and CMS development with **Pimcore 11.x**. Development of deployment strategies and introduction of software quality tools in the team (static code analysis tools, TDD, measurement detectors, etc.). Development of **CI/CD pipelines**. **Containerization** of LAMP applications (docker image creation) to simplify local development and orchestration on production systems. Simplification of methods in software development. Creation of technical documentation for software and systems. Consulting and expertise in the team. Testing and assessing new software tools.

Also: Introduction of **structured acceptance processes** (including stabilization processes from test/quality acceptance to go-live). Management, automation, deployment, optimization and monitoring of software and technical systems. Leading the weekly **Tech-Networking**, an exchange format for technical innovations, quality standards and work optimization.

Used technologies: **PHP 8.x** ▪ **Symfony 6.x** ▪ **Pimcore 11.x** ▪ **MySQL 8.x** ▪ **MariaDB 10.x** ▪ **PostgreSQL 14.x** ▪ **PHPStan (max. Level)** ▪ **Rector** ▪ **PHPMD** ▪ **Docker** ▪ **Docker Compose** ▪ **Docker Swarm** ▪ **træfik** ▪ **GitLab/GitHub CI/CD pipelines** ▪ **PHPStorm** ▪ **Git(Lab)** ▪ **Jira/Confluence** ▪ **Bash 5.x** ▪ **Debian 11/12** ▪ **Hetzner**, **maxcluster**, **NETWAYS Web Services (OpenStack)**

- ② **June 2023 – today** | Lead software developer from <https://locate.place> (Private implementation)

Development and implementation of a **geodata-based database** as a **REST-API** web service. Connection of a **ReactJS-based** user interface to the service. Provision of information and determination of nearest locations based on **WGS 84** coordinates. Integration of **PostgreSQL** for data management, with more than 6.5 million data entries and a database dump of over 2 GB. Use of data types such as point, line string and polygon for efficient data representation and data calculations. Use of **PostGIS** for spatial indexing, distance calculations and nearest neighbor searches.

→ The developed localization tool is accessible at the URL <https://locate.place> and supports users in determining locations and location information (nearest locations, geographical or infrastructural points, etc.). Source code: <https://github.com/orgs/locate-place/repositories>

Used technologies: **PHP 8.x** ▪ **Symfony 6.x** ▪ **API Platform 3.x** ▪ **ReactJS 18.x** ▪ **PostgreSQL 14.x** ▪ **PostGIS 3.4.x** ▪ **PHPStan (max. Level)** ▪ **Rector** ▪ **PHPMD** ▪ **Docker** ▪ **Docker Compose** ▪ **træfik** ▪ **PHPStorm** ▪ **Git(Hub)**

- ③ **January 2017 – July 2022** | DevOps engineer, Software developer, ressourcenmangel dresden GmbH

Planning, development, conception and acceptance of software projects (release management, Jira, Redmine). Administration and automation of technical environments and systems (via Docker Swarm, Kubernetes). Optimization and automation of development and deployment processes (Gitlab, Gitlab CI, Deployer). Acceptance and deployment of new software releases. Training and mentoring of colleagues and trainees.

Personal interests

- Image recognition using machine learning (Python, Keras)
- Microcontroller programming (ESP8266, C/C++)
- Implementation of geo-data services, PostgreSQL/PostGIS
- Fitness and photography

Language skills

- German (Native language)
- English (~B1/B2)
- Spanish (~A2)

Miscellaneous

- Driving license class C1E

- ④ **November 2012 - January 2016** | Technical lead, Software developer, ressourcenmangel dresden GmbH

Planning, development and coordination of software projects (Symfony, PHP, MySQL, JavaScript, Linux). Optimization and organization of internal processes. Project and software configuration management.

- ⑤ **Juni 2007 - Oktober 2012** | Web application developer, seto GmbH (m-pathy)

Planning, development and coordination of software projects and parts (Symfony, PHP, MySQL, JavaScript, Linux). Analysis and optimization of software and internal company processes. Conception and consulting. Training of the developed and implemented software modules.

- ⑥ **Dezember 2003 - Mai 2007** | Web application developer, evolver media GmbH & Co. KG

PHP/MySQL backend developer for publishing industry software. Perl developer for the export function of the in-house publishing software.

- ⑦ **Juli 2003 - Dezember 2003** | C++/JAVA Developer (Trainee), IAV GmbH

Development of a 3D conversion tool for Patran/Nastran (import and conversion of FE models). FE model calculations (surface determination). C/C++ development.

Education

- ① **2017 – 2020** | Computational Science, Chemnitz University of Technology

- Major in physics, mathematics and computer science
- Minor in artificial intelligence and machine learning
- **Bachelor Thesis:** *"Investigation of strategies for image classification on small training data sets"* (SEMKNOW GmbH)
 - **Link:** <https://github.com/friends-of-ai/bachelor-thesis/blob/master/main.pdf>
- **Degree:** Bachelor of Science
- **Grade:** Good

- ② **2000 – 2003** | Computational Science, Chemnitz University of Technology

- Study program with an increased physical and computer science component
- **Bachelor Thesis:** *„Automatisiertes Pre-Processing und parametrische Berechnungsmodelle für die thermomechanische Analyse von Verbrennungsmotoren.“* (IAV GmbH)
 - **Translated:** *"Automated pre-processing and parametric calculation models for the thermomechanical analysis of combustion engines."*

- ③ **1992 - 1999** | Abitur with advanced course in chemistry and mathematics

- Einstein-Gymnasium Potsdam (focus on natural sciences)
- **Grade:** Good

Dresden, den 19.05.2024

