

StefanKapferer

Software Engineer



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languages

german mother tongue
english fluency

interests

software engineering
software architecture
and design
service-oriented
architectures
microservices
domain-driven design
object-oriented
analysis and design
concepts of
object-oriented
programming
java

experience

- 2020–Now **Institute for Software (IFS) at HSR** Rapperswil
Software Engineer and Project Lead
- Software engineer and project lead in the Context Mapper open source project
 - Research projects around Domain-driven Design (DDD), service-oriented architectures / microservices, and service decomposition
- 05–09 2018 **Ergon Informatik AG** Zurich
Internship in Software Engineering
- Implementation of business web application in the real estate industry
 - Implementation and maintenance of build- and testing platforms
 - Conducting customer training and a requirements engineering workshop
- Used technologies and frameworks: HTML, CSS, JS, Freemarker, Java, Magnolia CMS, Gradle, Maven, Ansible
- 2014–2017 **Adcubum AG** St. Gallen
Software Engineer Professional (part-time: 60%)
- Design and implementation of tools to support developers (Eclipse plugins, command line tools, etc.)
 - Development and realization of concepts concerning CI/CD
 - Development, operation and maintenance of 'adcubum SYRIUS' build and it's continuous integration environment with Gradle and Jenkins
 - Development, integration and operation of software documentation tools
 - Classic software engineering tasks with Java and J2EE
 - Documentation of architecture and design
 - Supporting the migration from SVN to GIT
 - Supporting developers regarding IDE (Eclipse), Build (Gradle), SCM (Git), Continuous Integration, etc.
- 2012–2013 **Adcubum AG** St. Gallen
Software Engineer
- Product development (adcubum SYRIUS):
- Development of new features and enhancements in the module 'Bestandes-/Vertragsverwaltung'
 - Creation of SQL scripts for database migration (Oracle DB)
 - Architecture optimization for business processes within the module
 - Supporting software quality assurance processes
- Used systems and technologies: Java, JEE, Eclipse, SVN, Oracle SQL, XML, Linux
- 2011–2012 **swooffice ag** Teufen
Software Developer Java
- Product development (CRM solution)
 - Testing and operating solution (cloud-based solution)
 - Collaboration with customers in multiple projects
- Technologies: Java, JavaFX, Spring Framework, Apache Lucene, PostgreSQL

- 2008–2011 **clavis IT ag** Herisau
Software Developer
- Development of solution concepts
 - Specification and design of solutions in direct collaboration with customers
 - Implementation of solutions based on the following technologies, frameworks and products: IBM Lotus Notes/Domino, Liferay Portal, Java/JEE (Tomcat and WebSphere Express), Web technologies (CSS, JS, HTML, XML), Webservices
 - Testing and documentation
 - Supporting customers with operating implemented solutions
 - Support and train apprentices
- 2004–2008 **clavis IT ag** Herisau
Apprenticeship in informatics (application development)
 Software development using Java, Lotus Notes/Domino, and web technologies

education

- 2018–2020 **M.Sc. in Engineering** University of Applied Sciences of Eastern Switzerland (HSR FHO)
Focusing on Information and Communication Technologies in the Software and Systems Master Research Unit
 Conducted several research projects on the topics service decomposition, (micro-) service-oriented interfaces and architectures, and Domain-driven Design (DDD) aiming to strengthen personal knowledge in software architecture. The open source tool Context Mapper is a result of these projects.
- 2017–2018 **Completed 21 credits towards a M.Sc. in Computer Science** ETH Zurich
 Completed the following courses: Algorithms and Data Structures, Theoretical Computer Science, Linear Algebra
- 2013–2017 **B.Sc. in Computer Science** University of Applied Sciences of Eastern Switzerland (HSR FHO)
 Developed a concept and prototypic implementation for an architectural refactoring of the data access security based on attribute-based access control (ABAC) in a standard software for the insurance sector.
- 2009–2012 **Advanced Federal Diploma of Higher Education (HF) in Computer Science** ZbW
 Concept for a "State of the art Java development environment with Continuous Integration (CI)" and implementation in a case study project.
- 2004–2008 **Apprenticeship in informatics (application development)** clavis IT ag
Federal Diploma of Vocational Education and Training (EFZ)

papers and publications

- 2020 **Domain-specific Language and Tools for Strategic Domain-driven Design, Context Mapping and Bounded Context Modeling** MODELSWARD 2020
 In Proceedings of the 8th International Conference on Model-Driven Engineering and Software Development - MODELSWARD, pages 299–306. INSTICC, SciTePress.
- 2020 **A Modeling Framework for Strategic Domain-driven Design and Service Decomposition** Master thesis at HSR
 Proposing a modular architecture for a Strategic Domain-driven Design (DDD) modeling framework including a DSL, a reverse engineering framework, Architectural Refactorings (ARs), service decomposition analysis on the basis of coupling criteria, and multiple graphical generators. Have a look at the open source project <https://contextmapper.org> for more information.
- 2019 **Service Decomposition as a Series of Architectural Refactorings** Term project at HSR
 Architectural Refactorings (ARs) derived from Decomposition Criteria (DCs) compiled from literature and own experience. Implemented as code refactorings for the Context Mapper tool.

2019	Empirical Research in Software Engineering Scientific research strategies applied to software engineering.	Seminar paper at HSR
2018	A Domain-specific Language for Service Decomposition A formal approach to strategic Domain-driven Design (DDD) and service decomposition implemented in the Context Mapper open source tool.	Term project at HSR
2018	Model Transformations for DSL Processing Proof of concept for the implementation of refactorings for Domain-specific Languages (DSLs) on the basis of the Henshin tool and algebraic graph transformations.	Seminar paper at HSR
2017	'Attributbasierte Autorisierung in einer Branchenlösung für das Versicherungswesen' Concept and prototypic implementation for attribute-based access control in a (micro-)service-oriented architecture.	Bachelor thesis at HSR
2016	'Architectural Refactoring der Data Access Security' Extracting the data access security of a monolithic application into a separate Bounded Context (DDD) or microservice.	Semester thesis at HSR

talks

2019	Context Mapper: DSL and Tools for Domain-Driven Service Design Bounded context modeling and microservice decomposition	Java User Group CH
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