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### Overview

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<b>Core Competencies</b>	Software architectures and software design Full-stack implementation using various technologies Technical project management and team coaching
<b>Professional Experience Since</b>	2000
<b>Education</b>	Master of Science in Electrical Engineering and Control Systems
<b>Languages</b>	English (C2) Spanish (B1)
<b>Industry Knowledge</b>	Public Sector Telecommunications Media Automotive Plant Engineering Consulting Pharmaceuticals Food Industry Chemical Industry Transport & Logistics Energy Providers

### Certificates

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- Certified Project Management Professional (PMP)
- Certified ScrumMaster (CSM)
- Certified TOGAF Practitioner
- ITIL Foundation Certificate
- MCAD Microsoft Certified Application Developer
- MCPD Windows Developer
- MCPD Web Developer
- MCTS Microsoft SharePoint Configuration
- MCTS Microsoft SharePoint Development

# Competencies

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## ■ Programming Languages, Frameworks

C#, VB.NET, F#  
WPF, Silverlight, XAML, WCF, WF  
ASP.NET, ASP.NET Core, .NET Core  
TypeScript, JavaScript  
Python  
Java, Groovy  
Angular, React, jQuery, AngularJS, Knockout  
CSS, HTML, XML, XSL, XSD  
Visual Basic, VBA, PowerShell, Bash  
ANSI-SQL, T-SQL, PL-SQL  
C, C++, Visual C++  
Cypress, Selenium, WebDriver  
Assembler, Lisp, Fortran, Prolog, Matlab  
SharePoint Server Side Object Model, CSOM, CSRM

## ■ Databases

MS SQL Server, Oracle  
MySQL, SQLite  
MongoDB, DynamoDB  
Hadoop, HBase  
Endur, Snowflake

## ■ Products, Development Environments, etc.

Microsoft Visual Studio, Visual Studio Code  
JetBrains Toolbox (e.g. Rider, ReSharper, IntelliJ)  
Cursor, Windsurf, Cursor AI  
Azure DevOps Server, Team Foundation Server  
Git, Jenkins  
Enterprise Architect  
BizTalk Server  
Power Platform, Power Automate  
Office 365, SharePoint  
Azure Cloud, Amazon Web Services  
MS Dynamics CRM 6.0  
ChatGPT, GitHub Copilot

## ■ Methodological Knowledge

Project Management  
Design Patterns  
Service Orientation (SOAP, REST, GraphQL)  
OAuth 2, OpenID Connect  
Application Lifecycle Management  
Enterprise Application Integration  
Test-Driven Design  
Domain-Driven Design  
Software Reengineering  
Application Security / Threat Modeling  
Software Security Development Lifecycle (SSDL)  
Agile Methods (XP, SCRUM, ...)  
Cross-Platform Integration  
NoSQL, Polyglot Persistence  
Directory Services (LDAP, AD, EntraID, ...)  
Enterprise Architecture Frameworks (TOGAF...)  
Cloud Design

## Projects

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03/2024 – . . . .

### ■ Analysis and Remediation of Security Vulnerabilities in an Energy Trading System

**Industry** Energy Sector  
**Scope** 5 days/week  
**Role** Senior Security Analyst

#### **Description**

Analysis and remediation of security vulnerabilities in a risk assessment system for energy trading. Responsibilities included, among others:

- System analysis
- Threat modeling
- Decision-making on vulnerability mitigation strategies
- Remediation of security vulnerabilities
- Implementation of vulnerability detection mechanisms
- Security scans
- DevSecOps practices

#### **Technical Environment**

Visual Studio Code, JetBrains Suite, MS Threat Modeling Tool, DevSecOps, Git, AWS, DynamoDB, SQL Server, Endur, Snowflake, Orca

*Languages:* C#, JavaScript, TypeScript, Python, PowerShell, Bash, Terraform, SQL

01/2021 – 02/2024

### ■ Design and Development of a System for Optimizing Railway Line Utilization

**Industry** Logistics  
**Scope** 5 days/week  
**Role** Senior Developer

#### **Description**

Design and implementation of a system to optimize utilization on railway lines. Responsibilities included, among others:

- Partial architecture and system design
- Feature development
- Technical leadership of the frontend team
- Prototype creation
- Conceptualization of automated integration testing
- Design and implementation of CI/CD pipelines

#### **Technical Environment**

Rider, DataGrip, Visual Studio Code, Git, ASP.Net Core WebApi, Angular, Docker, Angular CLI, Gulp, Node, REST, MySQL, AWS, Azure, Enterprise Architect, Microservices

*Languages:* C#, JavaScript, TypeScript, LINQ, UML

## Projects (continued)

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10/2019 – 12/2020 ■ **Redesign and Reimplementation of a Learning Management System**

**Industry** Professional Services

**Scope** 5 days/week

**Role** Lead Developer

**Description**

Architecture, design, and implementation of a Learning Management System within a microservices architecture. Responsibilities included:

- System architecture and design
- Coaching staff on technology and methodologies
- Conceptualization and implementation of the CI/CD pipeline
- Feature development
- Technical leadership of the backend team
- Concept for unit test creation

**Technical Environment**

Rider, DataGrip, Visual Studio Code, Git, ASP.Net Core WebApi, Angular2+, Docker, Angular CLI, Gulp, Node, REST, MySQL, AWS, Azure, Enterprise Architect, Microservices

*Languages:* C#, JavaScript, TypeScript, LINQ, UML

06/2016 – 09/2019 ■ **Design and Development of a System for Predicting Infrastructure Measures**

**Industry** Logistics

**Scope** 5 days/week

**Role** Lead Developer

**Description**

Architecture, design, and implementation of a system for predicting infrastructure measures. Responsibilities included:

- System architecture and design
- Technology selection
- Feature development
- Technical leadership of backend and frontend teams
- Prototyping
- Creation of automated integration tests

**Technical Environment**

Visual Studio, Visual Studio Code, TFS, ASP.Net MVC WebApi, ASP.Net Core, Angular, Node, REST, Oracle, SQL Server, Enterprise Architect, Design Patterns, OWIN, Microservices

*Languages:* C#, JavaScript, TypeScript, UML, Regular Expressions

## Projects (continued)

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- 11/2015 – 05/2016 ■ **Management of Collaboration Spaces in SharePoint**
- Industry** Retail  
**Scope** 5 Days/Week  
**Role** Solution Architect
- Description**  
Architecture, design and implementation of a system for managing collaboration spaces. Tasks included among others:
- Architecture and design of the system
  - Responsible for feature implementation
  - Guidance of the development team
  - Participation in feature implementation
- Technical Environment**  
Visual Studio 2015, TFS 2015, ASP.Net MVC WebApi, Rest, AngularJS, Gulp, Node, Enterprise Architect, Design Patterns  
*Languages:* C#, JavaScript, TypeScript, Linq, UML
- 07/2015 – 10/2015 ■ **Trade Fair and Event Planning**
- Industry** Plant Engineering  
**Scope** 5 Days/Week  
**Role** Solution Architect, Technical Project Lead
- Description**  
Architecture and design of a system for international trade fair and event planning. Focus was on enabling the timely logistical availability of demonstration objects and installations. Tasks included among others:
- Architecture and design of the system
  - Responsible for feature implementation
  - Guidance of the development team
  - Development of time-critical components with high complexity
- Technical Environment**  
Visual Studio 2008–2015, TFS 2015, Silverlight, ASP.Net MVC WebApi, Rest, AngularJS, Gulp, Node, Enterprise Architect, Design Patterns  
*Languages:* C#, JavaScript, TypeScript, Linq, UML
- 04/2015 – 06/2015 ■ **Architecture Reviews and Coaching**
- Industry** Plant Engineering  
**Scope** 5 Days/Week  
**Role** Coach, Lead Developer
- Description**  
Review of the existing application landscape, standardization of architecture and design. Subsequently coaching in the implementation of the introduced structure.
- Technical Environment**  
Windows Azure, Visual Studio 2008–2015, SVN, ASP.Net MVC, ASP.Net MVC WebApi, WPF, Enterprise Architect, Design Patterns, AngularJS, Microservices  
*Languages:* C#, XAML, TypeScript, JavaScript, Linq, UML

## Projects (continued)

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- 02/2014 – 10/2014 ■ **SmartHome Home Automation**
- Industry** Energy Provider  
**Scope** 5 Days/Week  
**Role** Solution Architect, Technical Project Lead
- Description**  
Architecture, design and further development of a SmartHome home automation system sold directly to end consumers. Tasks included among others:
- Architecture and design of components
  - Responsible for feature implementation
  - Contact person and SPOC with the client
  - Guidance of the development team
- Technical Environment**  
Windows Azure, Visual Studio 2008–2013, TFS 2012, Silverlight, ASP.Net MVC, WCF, OCS, Enterprise Architect, Design Patterns, Microservices  
*Languages:* C#, XAML, JavaScript, Linq, UML
- 07/2013 – 01/2014 ■ **Microsoft Business Development**
- Industry** IT Consulting  
**Scope** 5 Days/Week  
**Role** Consultant, Business Developer
- Description**  
Support in building up a Microsoft development division including human resources, profiling, partnerships, marketing & sales.
- Social Environment**  
People interaction, networking in the Microsoft environment
- 12/2012 – 02/2013 ■ **Field Service Support System**
- Industry** Public Sector  
**Scope** 5 Days/Week  
**Role** Lead Developer
- Description**  
Design of a cloud-based architecture for connecting field service employees to the corporate network. This included creating an architecture blueprint, design creation and prototype development.
- Technical Environment**  
Windows Azure (ACS, Azure AD, Service Bus), Visual Studio 2012, TFS 2012, WPF, WCF, Enterprise Architect, Design Patterns  
*Languages:* C#, C++, XAML, Linq, UML

## Projects (continued)

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11/2012 – 12/2012

### ■ Product Evaluation

**Industry** Public Sector Client  
**Scope** 5 days/week  
**Role** Technical Specialist, Senior Developer

#### **Description**

Evaluation of the product "Service Bus for Windows Server 1.0." Development of a strongly typed API layer for consuming REST services, as well as design of usage patterns for the product.

#### **Technical Environment**

Service Bus for Windows Server 1.0, Windows Server 2013, Visual Studio 2012, TFS 2012, WCF, Enterprise Architect, Design Patterns  
*Languages:* C#, C++, XAML, LINQ, UML

10/2010 – 10/2012

### ■ Branch Establishment and Management

**Industry** IT Consulting  
**Scope** Variable, 1 to 5 days/week  
**Role** Branch Manager

#### **Description**

Establishment of the Cologne branch of an internationally operating consulting firm. Responsibilities included branch setup, human resources, profile development, building partnerships, as well as marketing & sales.

#### **Social Environment**

People interaction, networking in the Microsoft environment, networking in developer circles, experience in the Microsoft business field

09/2009 – 10/2012

### ■ EMiL 2.0

**Industry** Public Sector Client  
**Scope** 2 to 5 days/week  
**Role** Lead Architect, Team Coach, Team Lead

#### **Description**

Redesign of the personnel management system for the state of North Rhine-Westphalia, implemented on Microsoft .NET. Key responsibilities included:

- Reengineering of the legacy application
- Creation of architectural blueprint
- Design specification
- Development of a prototype
- Adoption of SCRUM and test-driven development practices
- Implementation of design patterns (e.g. MVVM, DI) and service-oriented architecture components
- Training and coaching
- Representation in committees

#### **Technical Environment**

Visual Studio 2008/2012, TFS 2010, Oracle 9i/10g, SQL Server 2008/2012, CodeRush, WPF, WF, Fluent NHibernate, LinqToNHibernate, Entity Framework, LinqToEntities, Enterprise Architect, Design Patterns, Reporting Services, REST, ASP.NET WebApi  
*Languages:* C#, XAML, PL-SQL, T-SQL, LINQ, Visual Basic 6, VBA, RDL, UML

## Projects (continued)

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### 01/2005 – 06/2010 ■ Business Unit Setup and Management

**Industry** IT Consulting  
**Scope** Varied 1 to 5 days/week  
**Role** Business Unit Manager

#### **Description**

Established the Microsoft and Systems Solutions business unit for an international consulting firm. Responsibilities included branch setup, HR tasks, branding, partnership development, and marketing & sales.

#### **Social Environment**

Interacting with stakeholders, building networks in the Microsoft ecosystem and developer circles, hands-on experience in the Microsoft business sector

### 02/2008 – 10/2008 ■ Development of a Controlling System

**Industry** Automotive  
**Scope** 5 days/week  
**Role** Lead Architect, Technical Project Lead

#### **Description**

Redesign of a Visual Basic-based controlling system and reimplementation on the .NET 3.0 platform. Duties included leading workshops, designing components, prototyping, team coaching, team leadership, and introducing SOA.

#### **Technical Environment**

Visual Studio .NET 2008, MS SQL Server 2005/2008, MS Visual SourceSafe, TFS 2005, Office 2007, Design Patterns, Enterprise Application Integration (EAI), IT Security  
*Languages:* C#, VB.NET, VBA, T-SQL, UML

### 05/2007 – 12/2007 ■ Fuels Pricing System

**Industry** Petrochemicals  
**Scope** 5 days/week  
**Role** Lead Architect, Technical Project Lead

#### **Description**

Migration of the Fuels Pricing System from Visual Basic 6 to the .NET platform, with complete redesign and feature enhancements. Responsibilities involved workshops, component design, prototyping, team coaching, project leadership, SCRUM adoption, and representation on the Architecture Board.

#### **Technical Environment**

Visual Studio .NET 2005, MS SQL Server 2005, MS Visual SourceSafe, Design Patterns, Enterprise Application Integration (EAI), IT Security  
*Languages:* C#, VB.NET, VBA, T-SQL, UML

## Projects (continued)

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11/2006 – 06/2007

### ■ Press Service Redesign

**Industry** Public Sector Client  
**Scope** 2 to 3 days/week  
**Role** Lead Architect, Technical Project Lead

#### **Description**

Development of a Word-based application for direct CMS input, including integration of services such as fax transmission. Tasks included project management, requirement analysis consulting, concept & planning, client support, and implementation supervision.

#### **Technical Environment**

Visual Studio 2005, Visual Studio Tools for Office, Office 2003  
*Languages:* C#, VBA

11/2006 – 03/2007

### ■ Dolce Gusto

**Industry** Food and Beverage  
**Scope** 2 to 3 days/week  
**Role** Technical Lead

#### **Description**

Aimed to consolidate the requirements of all departments and suppliers for efficient project management. Implemented a service-oriented architecture with design and prototyping. Responsibilities included technical project management, workshops, and architecture design.

#### **Technical Environment**

Visual Studio 2005, SQL Server 2000/2005, IIS, MCMS, MOSS  
*Languages:* C#, ASP.NET, T-SQL

10/2005 – 07/2006

### ■ Technology Consolidation

**Industry** Food and Beverage  
**Scope** 3 to 5 days/week  
**Role** Technical Lead

#### **Description**

Migration from a heterogeneous application landscape to a unified, service-oriented Microsoft environment. Tasks included:

- Defined the target platform
- Transferred applications to the new platform
- Coached the project lead
- Conducted workshops
- Prototyping

#### **Technical Environment**

Visual Studio 2005, SQL Server 2000/2005, IIS, MCMS, MOSS, Oracle, Visio  
*Languages:* C#, ASP.NET, T-SQL, PL-SQL

## Projects (continued)

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06/2005 – 04/2006

### ■ Parodiagnostic Portal

**Industry**      Pharmaceuticals  
**Scope**        1 to 5 days/week  
**Role**          Lead Developer

#### **Description**

Extension of an automated analysis process for dental samples, made accessible via a self-service portal with personalized explanatory findings. Responsibilities:

- Architecture definition
- Project management
- Conducting workshops
- Prototyping
- Development team leadership

#### **Technical Environment**

Visual Studio 2005, SQL Server 2000, IIS, MS Access 2003  
*Languages:* C#, ASP.NET, T-SQL

10/2004 – 05/2005

### ■ Error Collection and Diagnosis Tool

**Industry**      Telecommunications  
**Scope**        5 days/week  
**Role**          Senior Developer

#### **Description**

Developed a workflow for error logging in the billing chain, alongside a complementary tool built on Access under system constraints. Tasks included workflow definition with business users and tool implementation.

#### **Technical Environment**

MS Access XP / 2003, Excel XP  
*Languages:* VBA, Visual Basic 6

01/2004 – 09/2004

### ■ HGV Tolling System

**Industry**      Transport & Logistics  
**Scope**        5 days/week  
**Role**          Senior Developer

#### **Description**

Developed master data management for a satellite-based toll system with numerous interfaces. Activities included architecture design, development process planning, redesign, and implementation of software components.

#### **Technical Environment**

Microsoft Visual Studio 2003, SQL Server 2000, Internet Information Server 5.0  
*Languages:* C#, T-SQL

## Projects (continued)

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09/2003 – 12/2003

### ■ Exchange Automation

**Industry** Utilities  
**Scope** 5 days/week  
**Role** Developer

#### **Description**

Developed an application to automate recurring tasks in the client's Microsoft Exchange environment.

#### **Technical Environment**

Visual Studio 2003, Exchange Server 2000, Windows Services  
*Languages:* C#

01/2003 – 08/2003

### ■ Parodiagnostics

**Industry** Pharmaceuticals  
**Scope** 2 to 4 days/week  
**Role** Developer

#### **Description**

Developed an automated analysis workflow for dental samples, covering data collection to diagnostic report generation. Tasks included functionality consulting, architecture design, implementation, testing, and rollout. Expandability for web-based applications was foreseen.

#### **Technical Environment**

Visual Studio 2003, IIS 5.0, SQL Server 2000, Access XP, Windows 2000 Server  
*Languages:* C#, ASP.NET, T-SQL

03/2003 – 07/2003

### ■ Vehicle Data Exchange

**Industry** Automotive  
**Scope** 2 to 4 days/week  
**Role** Developer, Technical Specialist

#### **Description**

Defined a pan-European XML specification for vehicle data. Extended a used-car portal with web service support, distributing functionality across geographically separate backend components via web service communication. Delivered despite complexity and short project timeline.

#### **Technical Environment**

Visual Studio .NET, Visual Studio 6.0, IIS 5.0, SQL Server 2000, Windows 2000 Server, Web Services  
*Languages:* C#, ASP.NET, ASP, Visual Basic 6, T-SQL, XML, WSDL

## Projects (continued)

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11/2002 – 02/2003

### ■ Legal Literature Web Shop

**Industry** Media  
**Scope** 5 days/week  
**Role** Developer

#### **Description**

Designed a portal-based web application for selling legal literature, including integrated shop system and customer modules (account balances, order status, etc.). Provided consulting for requirements gathering and architecture design under strict budget constraints.

#### **Technical Environment**

Visual Studio .NET, IIS 6.0, SQL Server 2000, Windows Server 2003  
*Languages: C#, ASP.NET, T-SQL*

05/2002 – 10/2002

### ■ Legal Literature Web Shop

**Industry** Media  
**Scope** 5 days/week  
**Role** Developer

#### **Description**

Designed and implemented a distributed extranet application for providing agent data. Extracted information from Navision, transformed to XML, and published via web server. Scalability for future extension was a key objective.

#### **Technical Environment**

Visual Studio .NET, IIS 5.0, MS Access XP, Navision Financials, Windows Server 2003  
*Languages: C#, ASP.NET, T-SQL*

03/2001 – 04/2002

### ■ KUKA Robot Control 3.0

**Industry** Mechanical Engineering  
**Scope** 5 days/week  
**Role** Developer

#### **Description**

Redesigned the user interface, state machine, and command lock functionality of a robot control system to improve usability and reliability.

#### **Technical Environment**

Visual Studio .NET, Anaconda, MS Access 97/XP  
*Languages: C#, Visual C++ 6.0*

01/2000 – 02/2001

### ■ KUKA Robot Control

**Industry** Mechanical Engineering  
**Scope** 5 days/week  
**Role** Developer

#### **Description**

Extended the control interface for industrial robots based on new customer requirements. Developed external interfaces for configuration and maintenance.

#### **Technical Environment**

Visual Studio 6.0, KCC (KUKA Control Center)  
*Languages: Visual C++ 6.0, Visual Basic 6, KRC (KUKA Robot Language)*

**Projects (continued)**

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