

**Dominik Cebula**

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## *Cloud Software Architect & Engineer*

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### PROFESSIONAL PROFILE

A committed, experienced architect & engineer specializing in business software development for complex domains, always looking for new opportunities to develop cloud-native products. Alongside my professional commitments, I am also a Udemy instructor and a book author.

### COMPETENCIES

#### Concepts and Principles:

- ▶ Microservices Architecture ★★★★★
- ▶ Micro-Frontends ★☆☆☆☆
- ▶ Clean Code ★★★★★
- ▶ GoF Design Patterns ★★★★★
- ▶ SOLID ★★★★★
- ▶ Clean Architecture ★★★★★
- ▶ Fine Grained Testing Pyramid ★★★★★
- ▶ IoC / DI ★★★★★
- ▶ Domain Driven Design (Basics) ★☆☆☆☆
- ▶ REST API Design (Richardson Maturity Model) ★★★★★
- ▶ Scrum / Agile ★★★★★
- ▶ CI / CD ★★★★★

#### Cloud:

- ▶ Google Cloud Platform (GCP) ★★★★★
- ▶ Amazon Web Services (AWS) ★★★★★
- ▶ Kubernetes / GKE ★★★★★
- ▶ Docker ★★★★★

#### Frontend:

- ▶ ReactJS / Redux / ES6 ★★★★★
- ▶ HTML / CSS / JS / jQuery ★★★★★
- ▶ Java Swing / JavaFX ★★★★★
- ▶ NetBeans Platform ★★★★★

#### C++:

- ▶ GCC / G++ ★★★★★
- ▶ CMake ★★★★★
- ▶ NMake ★★★★★
- ▶ CLion / Visual Studio ★★★★★

#### Tools:

- ▶ Maven / TeamCity / Jenkins ★★★★★
- ▶ IntelliJ ★★★★★
- ▶ Sonar Code Analytics / Bitbucket ★★★★★
- ▶ Rally / JIRA ★★★★★

#### Programming Languages:

- ▶ Java ★★★★★
- ▶ GoLang ★★★★★
- ▶ Python ★☆☆☆☆
- ▶ JavaScript ★☆☆☆☆
- ▶ C++ ★☆☆☆☆
- ▶ Bash ★★★★★

#### Technical Documentation:

- ▶ PlantUML ★★★★★
- ▶ AsciiDoc ★★★★★
- ▶ Antora ★★★★★

#### Backend:

- ▶ Spring Boot, MVC, Core ★★★★★
- ▶ REST APIs, gRPC ★★★★★
- ▶ Wildfly / Tomcat ★★★★★
- ▶ Java EE / Jakarta EE ★★★★★

#### Data / Big Data:

- ▶ Cloud Spanner ★★★★★
- ▶ Oracle Database ★★★★★
- ▶ Apache Hadoop HDFS ★★★★★
- ▶ Apache Spark ★★★★★
- ▶ Jupyter / Zeppelin ★★★★★

#### Machine Learning / Operation Research:

- ▶ Supervised Machine Learning ★★★★★
- ▶ Scikit-Learn, Jupyter, DataSpell ★★★★★
- ▶ Linear / Integer Programming Model Analysis ★★★★★
- ▶ IBM ILOG CPLEX ★★★★★

#### Linux:

- ▶ Experienced User ★★★★★
- ▶ Bash Scripting ★★★★★

## PROFESSIONAL EXPERIENCE

Since 01 Oct 2012: Sabre Holdings - Cracow

Currently employed

- ▶ Principal Software Architect – 01 September 2022 – Current
  - Role Summary:

As a Principal Software Architect, I create Technical Requirements in alignment with Business Requirements. I create High-Level Designs for capabilities and execute work together with Team Leads and Teams. I operate within the Airline Retailing domain, where I identify systems that need to be integrated to deliver end-to-end business use cases. I work on the Offer & Order Model, which allows Airlines to create and distribute relevant offers to customers regardless of the distribution channel. I help Teams integrate Point of Sale Systems (POS), Offer Generation Systems, Order Management System (OMS), Payment Systems, Booking, Ticketing, and Inventory Systems, focusing on the Order Management System (OMS).
  - Key Projects & Achievements:
    - Retailing Ancillaries at the Airport – enables Airlines to sell ancillaries to passengers waiting for a departure at the gate
    - NDC Enablement for Seats Retailing – allows for selling pre-reserved seats through New Distribution Capability (NDC)
    - NDC Enablement for Ancillaries Retailing – allows for selling ancillaries through New Distribution Capability (NDC)
    - Clean Architecture Alignment – enables a domain-centric, testable, infrastructure-independent approach to system development
    - Production Readiness – Non-functional tests, Automated Security Scans, Code Quality Scans, Open-Source Licenses Usage Alignment, CI/CD, Blue-Green Deployment Strategy, Monitoring, Logging, Alerting, Tracing, Performance measurements
    - Compliance – PCI, PII / GDPR
  - Responsibilities:
    - Solution Design Around SLAs and Costs
    - Business and Technical Requirements Analysis
    - Architecturally Significant Requirements (ASR) Documentation Creation
    - Technical Documentation Creation
    - Technical Backlog Definition
    - Work execution with Team Leads
    - RFP / RFI Analysis
  - Technologies:
    - Backend: Java 17, Maven, Bazel, Spring Boot

- Database: Cloud Spanner
  - Cloud: GCP
  - Containers: Docker, Kubernetes / GKE
  - Architecture style: Microservices, Clean Architecture
  - Communication: gRPC, Service Mesh, Envoy, REST API
  - Design & Docs: Plant UML, AsciiDoc, Antora
  - CI/CD: Jenkins, Nexus, GKE
  - VCS: Git, Bitbucket
- ▶ Principal Software Engineer - 01 September 2019 – 31 August 2022
- Role Summary:

As a Principal Software Engineer, I am working with multiple Teams on completing goals in cloud-related projects. I am involved in the end-to-end product lifecycle, from both business and technical perspectives, taking into account ROI calculations, business case requirements gathering, product design, development, and work planning for Teams. In addition, I am educating teams on code quality and advising on technologies.
  - Key Projects & Achievements:
    - After-COVID Marker Size Estimator - 1st place on D&A Ideation Blitz, Random Forest Classifier, and Regression for Market Size Estimation based on public events for After-COVID Recovery
    - NPS Microservices Framework – Monolith Runtime Extensions allowing for incremental migration to Microservices
    - NPS Monolith to Microservices Migration – Modularization, Decoupling, Refactoring, Containerization of the large product (4M lines of code)
    - NPS Models Auto-Scaling Capability – Native Auto-Scaler for first Microservices extracted from Monolith
    - NPS Micro-Frontends Design - Webpack 5 Module Federation-based Micro-Frontends approach
    - NPS Models Workflows – Auto-Scaled End-To-End Business Workflows for Models Area
    - AVPS Models Registry & Models Override – Decoupled Runtime Modules for Models Area, allowing independent deployment and experiments
    - AVPS Insights – Airline Market Data Analysis and Visualizations
  - Responsibilities:
    - Member of the NPS Architecture Council
    - Leading work for Cracow-based Team
    - Design, Development, Work Planning, Proof of Concepts Implementations
    - Technical Advisor for Cloud and Container Related Technologies

- Architecture Design, Costs Calculations, Work Efficiency Improvements Calculations, ROI Calculations
- Cooperation with Dallas, Washington D.C., and Bengaluru on key initiatives
- Scrum Master – Building Self-Organizing Teams
  
- Technologies:
  - Containers: Docker, Kubernetes
  - Cloud: AWS EC2 / VPC / ELB / Route 53 / S3 / EFS
  - Cloud: GCP GKE / Compute Engine
  - Backend: Spring Boot, Wildfly, Java 11
  - Frontend: JavaScript ES6, ReactJS, Redux, Webpack, NPM, Mocha, SinonJS, Babel
  
- ▶ Team Lead Software Developer - 01 Apr 2017 – 31 August 2019
  - Role Summary:

As a Team Lead Software Developer, I was responsible for helping the Team to achieve short-term and long-term goals on both technical and work organization levels. I worked closely with Architects and Product Owners to gather priorities and business/technical requirements for functionalities being built. In addition, I was educating the team on code quality and advising on technologies.
  
  - Key Projects:
    - AVPS Insights – Airline Market Data Analysis and Visualizations
    - Automatic System for Issue Prioritization – 3<sup>rd</sup> place on Sabre Hackday, Naive Bayes Classifier, and Prioritization System for Issues Reported by Customers
  
  - Responsibilities:
    - Team Lead for Cracow-based Team for AVPS Insights
    - Technical Advisor for Cloud Related Technologies
    - Cooperation with Dallas, Washington D.C., Toronto, and Bengaluru on key initiatives
    - Scrum Master – Building Self-Organizing Teams
  
  - Technologies:
    - Cloud: AWS EC2 / VPC / ELB / Route 53 / S3 / EFS
    - Backend: Spring Boot, Apache Hadoop, Apache Spark, Java
    - Frontend: JavaScript ES6, ReactJS, Redux, Webpack, NPM, Mocha, SinonJS, Babel

▶ Senior Software Developer - 01 Aug 2015 - 31 Mar 2017

○ Role Summary:

As a Senior Software Developer, I was responsible for implementing Enhancements and Bugfixes for new and existing projects of the AVPS family. In addition, I was working closely with other Team Members and helping them create easy-to-understand and maintainable code aligned with quality standards.

○ Key Projects:

- AVPS Models Lab – Platform for Models Spike Creation and Testing in C++, Java, R
- Enhanced Robust Operational Aircraft Routing – Integrating Integer Programming Model for Rotation Optimization
- User Defined Reporting – Automatic Reporting with Excel Integration for Airline Data
- Flight Delay Predictor – 1<sup>st</sup> place on Sabre Hackday, Statistical Model for predicting Flight Delays based on historical data

○ Responsibilities:

- Lead for Flight Delay Predictor Team
- Lead for AVPS Models Lab
- End-to-end Implementation of AVPS Models Lab
- Implementation and Integration of Enhancements and Bugfixes for AVPS Products

○ Technologies:

- Backend: Spring Boot, Apache Hadoop, Apache Spark, SparkJava, Java SE/Java EE, EJB, RMI, Wildfly, Oracle 12g Database, IBM ILOG CPLEX, SVN, JUnit, EasyMock, Mockito
- Frontend: HTML, CSS, jQuery, Java Swing, Java FX, NetBeans Platform

▶ Contributor Software Developer - 01 Jul 2013 - 31 Jul 2015

○ Role Summary:

As Contributor Software Developer, I provided necessary help while implementing new features and bugfixes for Core Runtime parts for AVPS projects. I was also responsible for Models implementation for AVPS Fleet Manager.

○ Key Projects:

- Rotation Quality Metrics Improvements – Heuristic Algorithm for Rotation Optimization
- Multiple Solutions Reporting Implementation – Ability to report on data for multiple Integer Solutions

- Input Schedule Violations Implementation – Ability to Measure Input Schedule Rules Violations Level
- AVPS System Runtime – Tracing, Monitoring, Debugging Capabilities
- Responsibilities:
  - Implementation of Rotation Quality Metrics Improvements
  - Implementation of Multiple Solutions Reporting
  - Implementation of Input Schedule Violations
  - Enhancements & Bugfixes for AVPS Product Family
- Technologies:
  - Backend: Java SE/Java EE, EJB, RMI, JBoss, Oracle 12g Database, IBM ILOG CPLEX, SVN, JUnit, EasyMock, Kibana, Elasticsearch
  - Frontend: Java Swing, Java FX, NetBeans Platform
- ▶ Associate Software Developer - 01 Oct 2012 - 30 Jun 2013
  - Role Summary:

As Associate Software Developer, I was part of the team responsible for implementing AVPS Fleet Manager related bugfixes and new enhancements.
  - Key Projects:
    - AVPS Fleet Manager Spill and Recapture Model – Enhancements Implementation for overbooking model
    - AVPS Fleet Manager – Fleet Assignment Model – Enhancements for Integer Programming Model for IBM ILOG CPLEX that solves Fleet Assignment Optimization Problem
    - AVPS Fleet Manager – Economic Data Generator – Enhancements for Mathematical Model that creates Revenues, Costs Calculations for Airlines Schedules based on Aircraft Configurations and Forecasted Demand Data
  - Responsibilities:
    - Enhancements / Bugfixes for existing functionalities
    - Linear/Integer Programming – Mathematical Model Analysis and Implementation
  - Technologies:
    - Backend: Java SE/Java EE, EJB, RMI, JBoss, Oracle 11g Database, IBM ILOG CPLEX, SVN, JUnit, EasyMock
    - Frontend: Java Swing, Java FX, NetBeans Platform

- ▶ System Software Developer - 01 Oct 2008 - 30 Sep 2012
  - Role Summary:

As a System Software Developer, I was responsible for the End-To-End Development of Syriusz Company products, including implementing integration with external systems.
  - Key Projects:
    - Hermes
    - Hermes EDI (Electronic Data Interchange)
    - eHermes
    - Harmonia
  - Responsibilities:
    - Warehouses System Development
    - B2B System Development
    - Invoice Exchange Systems Integration
    - Production Control Systems Development
  - Technologies:
    - Backend: C++, Delphi, PHP, FirebirdSQL
    - Frontend: HTML, CSS, jQuery, Delphi VCL

**Since 18 May 2019 – Udemy Instructor**

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- ▶ Udemy Instructor - 18 May 2019 - Current
  - Role Summary:

I created a series of courses on Spring Professional Certification with over 5000 students.
  - Key Projects:
    - Spring Professional Certification Exam Tutorial
    - Spring Professional Certification Exam Practice Tests
    - Spring Native and GraalVM - Build Blazing Fast Microservices
  - Responsibilities:
    - Creating Education Materials
    - Video Editing
    - Audio Editing
    - Marketing
  - Technologies:
    - Java, Spring Boot, Spring Framework

- Audacity
- Shotcut

## CERTIFICATION

- ▶ VMware Spring Professional 2021
- ▶ AWS Certified Solutions Architect – Associate
- ▶ Scrum Alliance Certified ScrumMaster

## EDUCATION

**01 Apr 2010 - 31 Jul 2011**

**1.5 year**

**University of Information Technology and Management in Rzeszow**

- ▶ Degree: Master of Science
- ▶ Specialization: Software Development Technologies

**01 Oct 2006 - 31 Mar 2010**

**3.5 year**

**University of Information Technology and Management in Rzeszow**

- ▶ Degree: Bachelor of Engineering
- ▶ Specialization: Software Engineering

## BOOKS

- ▶ Title: GoF Design Patterns Distilled
- ▶ Author: Dominik Cebula
- ▶ Description:
  - Provides straight to a point, distilled explanation of GoF Design Patterns with meaningful examples. Covers all 23 design patterns, divided into three groups: Creational, Structural, and Behavioral. Each design pattern is presented with a description, use cases, a diagram, and a meaningful example code written in Java.
- ▶ Leanpub: <https://leanpub.com/gof-design-patterns>
- ▶ Amazon: <https://www.amazon.com/Design-Patterns-Distilled-Dominik-Cebula-ebook/dp/B0C91X1GT8>

## FOREIGN LANGUAGES

- ▶ Very good knowledge of spoken and written English that allows to:
  - communicate freely verbally, using Mail, IM
  - read and write technical documentation/books