TOMASZ GIL
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Software Consultant

PROFESSIONAL SUMMARY:

I am a seasoned Software and Data Engineer and Architect with over 20 years of experience working both with agile teams and as a sole contributor. My expertise is in architecture, design, and development of software and data — systems and applications. As a software technologist I can clearly articulate where technology and programming effort meet to contribute to the realization of the project. I can tackle technological and algorithmic problems that exceed the capabilities of typical developers — examples provided upon request.

EXPERTISE:

- Data modeling and schema design
- Relational databases and SQL programming
- Application code structure and architecture
- Concurrency and synchronization
- Numerical algorithms

TECHNOLOGIES:

- Java: Java Open Source, Maven/Ant/Eclipse, Spring Framework, JMX, JDBC, JPA
- .NET: C#, ASP.NET Core backend with Microsoft tech, EntityFramework
- Application architecture: Domain-Driven-Design, Volatility-Based-Decomposition, microservices, message queuing, object-oriented and functional programming
- Relational Data stores: PostgreSQL, SQL Server, Oracle, MySQL, replication and bulk data operations, Change-Data-Capture (CDC)
- Data modeling and programming: ER, SQL, ORM
- Data warehousing: Databricks, Snowflake
- Non-relational Data stores: Redis, Couchbase, Cassandra, Elastic Search and ELK, Kafka, Zookeeper
- Cloud: Azure, AWS, Docker, Azure ServiceBus, Azure Data Factory
- Other platforms: NodeJS/Javascript/Typescript/ExpressJS, Django/Python
- Web/API application technologies: MVC, Jersey REST, JavaScript, jQuery, HTML, HTML5, SVG, XML, XSLT
- Other: UNIX shell, TCP/IP, HTTP, tcpdump/wireshark, C/C++, git, CVS, subversion

PROFESSIONAL EXPERIENCE:

Launch Consulting (Level11 until 2020)   **Sept 2016 – Jan 2024**
Senior Software Engineer

- Implement an application aimed at large data transfers, interfacing to Azure Data Factory, Service Bus and SQL databases
- Help in implementing new VBD-based platform supporting multi-tenancy for eye clinics and eye care services
- Lead data engineer and data modeler designing a hybrid database system combining snapshots, replication and added SQL schema objects. Explored use of CDC and Kafka-Connect.
- Logging of HTTP traffic with request/response content to database for a backend system supporting eye clinics, exams, eye glass orders – using Java and Apache Camel
- Backend architecture and implementation (based on Domain Driven Design) of a system collecting visitor information with focus on COVID
- Interface of a Java-based backend to 3rd-party C++ based face recognition library

- Worked with geometric problems: division of space into rooms, printing/engraving as manufacturing process
- Worked on a large-scale location tracking system - diagnostics and monitoring of software and devices
- Feature work on software for cruise ships to interface to new devices (e.g. marine GPS) and 3rd party systems (e.g. weather forecasts) - use of Elastic Search and Kafka/Zookeeper
- Integration with 3rd party ticketing provider for an amusement park venture
- Conceived and implemented a generic content management system (CMS) for Orchestr8 based on Django and Java

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SoftSource Consulting   **Sept 2014 – June 2016**
Software Architect
- Architected and designed a complete system of distributed diagnostic capture and storage
- Identified thousands of independently reported client session diagnostics and correlating them with server-side logs
- Implemented accurate time estimation in client systems
- Involved in different platforms and languages: working in C#, SQL Server, C++, and on Linux
- Helped to implement a version 2.0 platform in Java, JPA/Hibernate, JSON, MySQL, and WildFly/JBoss
- Architected and designed an application-level framework that allowed the user to extend and customize the available persistent entity types with minimal disruption to operations
- Involved in creation of JPA object scheme that interacted with a dynamic type management system
- Evaluated MySQL and Cassandra as datastores, and implemented the framework
- Designed and developed a subsystem that generated and compiled Java code extensions and executed user-specified JavaScript code inside the Java application

Nuance Communications (initially Tweddle Group)   **July 2010 – Sept 2014**
Senior Software Engineer
- Designed and developed middle tier Java-based software platform supporting the client systems on wireless handheld and vehicle-based devices through server API, brokering services from 3rd party providers
- Consulted with other teams and initiated numerous architectural and technological improvements in the software: use of JAXB and XML schema for API definition, use of JAX-RS REST Jersey framework, low-level methodology for interacting with Oracle database, and annotation driven transactions
- Made improvements that accelerated software development by the whole team
- Architected, designed, and developed interaction with voice processing services from audio and grammar to semantic understanding

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Experience prior to 2010

E-Commerce (Amazon), Aviation (CDG/Boeing), Internet advertising (Marchex), Systems and connectivity (Graphon)

EDUCATION, CERTIFICATIONS, PATENTS:

Indiana University   **1989**

PhD, Physics, Chemistry, Applied Math - Specializing in theoretical quantum physics and applied mathematics
N. Copernicus University   **1981**

M. Sc., Physics - Specializing in theoretical quantum physics with a large component of applied mathematics
Patent: Tweddle Group, involving wireless software and automotive technology 2012
Certifications: Azure Fundamentals
Work authorization: Citizen of US, EU/Poland