Experienced Software Engineer

PROFESSIONAL EXPERIENCE

Microsoft – Software Engineer

May 2012 – present

Delivered core improvements on the next-generation **SQL Server** in-memory MVCC database engine, **Hekaton**. Had a key role in expanding the lock-free transaction processing mechanism to support interleaved nested transaction. The solution is currently patent-pending. This enabled a top-requested user scenario: Multiple Active Result Sets. Implemented natively compiled stored procedure support for Check and Foreign Key Constraints.

Development of the shared-nothing distributed RDBMS engine, SQL Server **Parallel Data Warehouse** (PDW). Helped deliver Transparent Data Encryption by leading the effort to utilize AES-NI instructions in SQL Server to increase performance. Extended Distributed-SQL language surface area by implementing features such as error handling and intrinsics. Added PDW connectivity to **Visual Studio** tooling.

Developed a set of PowerShell scripts to facilitate quick deployment of a **Hadoop** cluster (including Hive, Pig, H-Base, etc.) on a set of local or Azure VMs for development purposes. With a seven minute deployment time on the desktop, increased team productivity significantly.

Vast.com – Core Software Engineer

March 2011 – May 2012

Lead redesign and reimplementation effort of **Vast Data Framework**, a JSON and Avro based serialization framework used throughout the company's infrastructure. Through the use of Maven-integrated code generation it provides efficient and convenient data access.

Took part in implementation of various features and worked on improving the overall architecture of **VastDB**, a No-SQL solution based on a *dbm*-like key value store and Hadoop, dubbed a "streaming database."

Completely redesigned and expanded the feature set of **VastComm**, a Netty based communications library that greatly simplifies implementing network interfaces such as HTTP or Avro for internal REST services.

Softplus Design – Founder

Part time 2003 – 2010

Founded the company during the 3rd year of High School as a family business. Designed and implemented an end-to-end solution for Sports Bookmakers. Responsibilities included understanding user scenarios, UI design, software architecture and implementation, including the internal tools used to provide continuous data updates to customers.

EDUCATION & AWARDS

M.Sc. in Software Engineering – School of Electrical Engineering, University of Belgrade

October 2008 – September 2010

GPA: 9.00 out of 10

THESIS: Integrated Development Environment for Assembly languages

The thesis focuses on teaching assembly to SE students. It analyses the existing solutions and presents a novel approach based on ease of use and simplicity. The **Messy Lab** IDE is currently part of the B.Sc. curriculum of the university. Features include VM and debugging capabilities. It was implemented in C#. www.messylab.com

B.Sc. in Software Engineering – School of Electrical Engineering, University of Belgrade

October 2004 – October 2008

GPA: 9.07 out of 10

As part of the curriculum I designed and implemented a number of projects using a diverse set of technologies. These include **Preemptive Multithreading Kernel** written in C++, **Distributed Image Processing** system written in Java, **Airport Baggage Transport System** written in ASM and based on a custom x86 hardware schematics and **Automobile Cruise Control System** written in Java Real-time.

Patent Award – Microsoft

2015: Multi-Version Data System Nested Transactions Isolation

TECHNOLOGY & LANGUAGES

Programming languages: C#/.NET, Java, C/C++, PowerShell, x86 ASM

Fundamentals: Strong OOP skills, Software Design Patterns, General Algorithms, Basics of Computer Architecture, Basics of Digital Circuit Design

Development tools: Visual Studio 2013, IntelliJ IDEA, Eclipse, Maven, TFS, Perforce; on Windows, Mac & Linux

Data processing: SQL Server, PDW, Hadoop, Tokyo, MySQL, SQLite

Languages: **English** (fluent), **Serbian/Croatian** (native)