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Professional Summary

Senior Software Engineer - creative, responsible and highly experienced (more than 25 years in the U.S.) full stack developer - do not need to be managed.

Environments: Windows, Mac OS X, iOS, Android, Windows Mobile, MS-DOS, UNIX, MVT
Databases: MS SQL Server, SAP Sybase, Oracle, DB2/400, MySQL, IndexedDb, SQLite, Microsoft Access, Apache Derby, PostgreSQL, dbVista, dBase, IMS DB/DC
Languages: C#, VB.Net, Java (SE and EE), JavaFX, TypeScript, JavaScript, PHP, Objective C, PowerBuilder, Visual Basic, Delphi/Pascal, C/C++, Transact-SQL, PL/SQL, Clipper, Assembler
Tools and Technologies: Visual Studio, VS Code, Eclipse, Android Studio, Xcode, Angular, Xamarin, WPF, Windows Forms, SkiaSharp, UrhoSharp, DevExpress, SAP Crystal Reports, OpenCV, Google Maps API, GMap.Net, SharpMap, ASP.NET, RESTful API, JQuery, jqGrid, Bootstrap, SVG, WebGL, Apache, IIS, GlassFish, Unit Testing (Java, C#), AS/400 ERP (JBA, Aurora), ORM (Entity Framework, JPA), CMS Joomla, Active Directory API, Power Designer, ERwin, Sentinel HASP software protection, TFS, SVN, GIT

Professional Experience

Dyno Nobel, Salt Lake City, UT

April, 2017 – present

Senior IT Consultant

- **Preload** software for mine engineers to design the optimal blast load based on drill rock hardness and face profile data. The software automatically splits a hole into load segments to use optimal product density and/or weight for each segment to export the data for load truck computer. Preload is capable to import blast data provided in variety of formats such as csv, xlsx, txt, xml, IREDES, mdb, dxf to integrate with internal data model using persistent fields mapping. Load Profiles created based on vertical/horizontal hardness and face burdens help to create blast load data in a few clicks. Both 2D and 3D blast diagram modes are supported. C#, Visual Studio, WPF, SkiaSharp, UrhoSharp, MVVM Light, NLog. [Screenshots](#).

- **Dyno Shot Layout** software to use on mobile devices for mining engineers, blasters and drillers to design a blast by entering holes pattern, geometry, location and timing data. The software operates in 3 modes - Shot Layout, Drill Log and Hole Log. In Drill Log mode all planned holes created in Shot Layout mode have the data how they have been drilled including actual depth, rock type and drilling conditions. Drill Log mode accepts products data and the way how each hole has been loaded. The report prepared in PDF format shows

differences between planned planed and drilled data for each hole along with 2D blast diagram. The software is integrated with company's central database to import/export data using REST API and run under iOS, Android and Windows(UWP). C#, Visual Studio, Xamarin, SkiaSharp, XML, AppCenter. [Screenshots](#).

PPCi, Cleveland, OH

May, 2005 – present

Sr. Software Engineer

Founder, President and Sr. Software Engineer. For 15 years the company performed IT services for the following industries: mining, drilling and blasting services, explosives and accessories manufacturing, electronics manufacturing, inventory control, land title, government services, training

- **Mobile Shot Report** Electronic Blast report as Progressive Web Application. Angular, TypeScript/JavaScript, RxJS, Reactive Forms, Service Worker, Bootstrap, SVG, WebGL, three.js, jsPDF, Google Maps API, RESTful API in PHP, IndexedDb, MySQL. [Screenshots](#).
- **Blast Safety Factor Analyzer** software conversion from ASP.Net MVC to Java EE. JavaFX, EJB, JUnit, GlassFish, Derby (Java DB), PostgreSQL. [Screenshots](#).
- **PhotoVanilla** CMS to create web ready photo presentations for Windows and Mac OS X platforms. JavaFX, Delphi, JavaScript, HTML, CSS, FTP, image processing, threading, Private Profile classes to handle presentation meta data. [Screenshots](#).

CaptiFlow LLC, Cleveland, OH

May, 2016 – December, 2016

Senior IT Consultant

In 6 months built a competitive software product that challenges RamQuest and SoftPro. Worked in a team of two developers and one title business professional using best practices of cloud computing and agile methodology.

- **Closing Corner** software for Title industry to fully automate the process of entering key documents such as Closing Disclosure and HUD-1, disbursing funds and printing reports CD (standard and payoff versions), HUD, Settlement report for buyer/seller, buyer only, seller only with or without addendum, General ledger, Disbursement checks. To make data entry process more intuitive all electronic forms were created as close as possible to paper original. Cloud technology, Microsoft Azure, MS SQL, ADO.Net, LINQ, VB.Net, DevExpress. [Screenshots](#).

Austin Powder Company, Cleveland, OH

May, 1993 – January, 2016

Senior IT Consultant

Was engaged with this company in and out for more than 20 years starting as a consultant then employee then solo proprietor and finally as a contractor. Lead developer and for many years only one person on company's core software project Electronic Blast Report conducting database administration, data replication, ETL, software development and help support. Worked directly with people in the field. On many occasions the software was a decisive factor that helped Austin Powder in attracting new customers.

- **Blast Safety Factor Analyzer** - software to notify blasters and their supervisors about potential blast problems using fly rock distance calculation algorithm based on a blast design and blast height calculated by Blast Video Analysis application. C#, WPF, ASP.NET MVC, jQuery, jqGrid, Bootstrap, REST/JSON, dual Windows/Forms authorization with AD roles, Entity Framework Code First, MS SQL. [Screenshots](#).
- **Blast Video Analysis** - software tool to analyze blast video to be able to detect potentially dangerous blasts. Video analysis algorithm is written on C++ with OpenCV package. User

interface is a web application: C#, ASP with JQuery and MS SQL. [Screenshots](#).

- **SeisDC** - seismic blasting data capture software package to download electronic detonators logging and blasting data along with GPS coordinates from company proprietary devices via serial communication to be able to track seismic, drilling and blasting jobs. Geographical mapping software has been used including Google, Bing and Yahoo providers to show planned, drilled and blasted holes on a street, terrain or satellite map with custom size reports to be able to print job progress on a plotter or to be viewed on a tablet or a phone. Support for GeoTiff, SID, Shape formatted maps. C#, XML, GMap.NET, SharpMap with extensions, GPS Toolkit, FWTools, PDF Creator, SAP Crystal Reports. [Screenshots](#).

- **Face Hole Profiler** - Android application to capture laser profiler data using bluetooth and/or serial communication to build face hole profile graph in real time. Works with TruPulse Laser Range Finder and Laser Ace Burden Finder. Custom Java classes serialization/deserialization using reflection, PDF reports, Customer/Project data structure support, Thumbnail view, Min/Max burden calculation and more. Java, XML. [Screenshots](#).

- **Electronic Blast Report (Classic)** - upgrading original EBR software to be compatible with latest version of Windows. This EBR Classic version was provided for customers upon request along with all necessary customization. Power Builder, Visual Studio, C#, VB, SAP Sybase, SAP Crystal Reports, ActiveX, OLE. [Screenshots](#).

- **Electronic Blast Report (New)** - core company's software has to be re-written using latest technologies. Agile Project Management. Visual Studio, C#, MVVM, WPF, Entity Framework with self tracking entities, T4, MSSQL, LINQ, CLINQ with Reactive objects, Unit Tests. [Screenshots](#).

- **Blaster Calculator** for iPhone/iPad and Android devices. 119 formulas for blast design, volume, weight, powder factors, fly rock, fragmentation, overpressure calculations, GPS and UTM data manipulations. Objective C, Xcode, Java, Eclipse. [Screenshots](#).

- **Blasting Solutions** - project to protect sophisticated Excel spreadsheets created by a scientist for blast design, fly rock prediction, overpressure and vibration calculation. Custom DLL was used to hide all copyright sensitive formulas which was protected using SafeNet (former Aladdin) HASP technology. Visual Studio, C#, VB, Excel XLL add-ins, Excel-DNA. [Screenshots](#).

- **QED DOS/QED Plus** - blast design and simulation software with 3D terrain graphics. Visual Studio, C++, Zinc (for graphics and UI). Provided software protection using HASP technology with licensing support utilities based on HASP API. Maintained new software releases. BDx (Blast Data Exchange) support software for data import/export for EBR and Blasting Solutions. [Screenshots](#).

- **Customer Pricing Application** project for field sales management to control and process customer pricing using a laptop with functionality to replicate data between submitters, approvers and AS/400 consolidated database. Visual Studio, C#, SAP Sybase with data replication, ADO.NET, SAP Crystal Reports. [Screenshots](#).

- **Data Synchronization and Data Map** - custom ETL data synchronization and replication tool. This application provides fast and reliable data transfer between DB2/400, Sybase and MSSQL databases using change tracking triggers and/or data bulk load/unload and synchronization queries. Visual Studio, C#, DB2/400, SAP Sybase, MSSQL, ODBC, XML, ADO.NET, DataAccessFactory to generate connection, transaction, command, data adapter objects based on provided database type. [Screenshots](#).

- **ConnectDetect and AutoUpdate** applications to automatically deliver system and application updates based on user and group subscriptions. ConnectDetect as NT Service or a stand alone module uses WMI technology to wake up upon detecting network connection, start AutoUpdate to deliver application updates under version control supervision. FTP, HTTP and standard Windows file API used to transfer data with error checking and crash recovery. These applications helped to clear viruses without user intervention on more than 250

remotely located computers. Visual C++, VB, WinSock, PK-Info, Windows SDK and DDK.

- **Austin Data Relational Security** - web application to define user and group rights per application including automatic authority delegation based on employee job type. WPF, c# and Active Directory API, VB with WebClasses, DB2/400, ADO, JavaScript.

- **View a Blast application** - web application developed using WebClasses and JavaScript to retrieve and group blast data based on AS/400 consolidated database with a search engine and security access implementation.

- **Shot Report application** to automate blast services paperwork and capture blasting activity data in company's consolidated database. Sybase with Data Replication, Power Builder with PFC, Power Designer, Delphi, VB, Crystal Reports. Software functionality included

- automatic deployment of new application releases with database updates to more than 250 users through company's wide area network with version control, dynamic data compressing and decompressing
- unique blast diagram graphical object editor implemented as a separate COM object
- blast data export and import between user databases or as a PDF report to archive or e-mail
- mathematical algorithms to calculate distance and bearing based on GPS or UTM coordinates converted from Fortran to Delphi dynamic link library
- adding handling more than one company data using separate consolidated databases

- Developed Microsoft Access applications to automate Austin's inventory and billing systems.

- Developed numerous programming tools for Microsoft Access system development. These included Access objects generators, help generator, module and function prototyper, error handler, transactions log support.

- Prepared and taught advanced Access Basic programming classes to Austin Powder staff.

Revelation Energy, Phelps, KY

May, 2013 – July, 2015

Senior IT Consultant

High cost of mining machinery optional navigation systems created a demand for universal custom solution which materialized in the form of these two GPS navigation software projects for vertical and horizontal drilling. Architected and developed these projects in a team of two - myself and a professional driller. The software was capable to parse company's legacy drilling area diagrams stored in AutoCAD format to help navigate in already surveyed areas.

- **High Wall Miner Navigator** - navigation software to position High Wall Miner machine to drill a horizontal hole with sub foot precision using industrial GPS devices Trimble 855 (Rover) and 555 (Moving Base). Original drilling plan provided in CAD (dxf) format. Converting from State to GPS coordinates used to build a plan in GMap.Net. Visual Studio, C#, XML, DXF (AutoCAD), GMap.Net, User Controls, DataSet, Serial Communication, NMEA. [Screenshots](#).

- **Drill Navigator** - software package to use on quarry drilling machine to navigate to a position of a planned hole with sub foot precision using industrial dual GPS device - Trimble or Topcon - and geographical mapping software. Drill pattern builder based on GPS coordinates, burden, spacing and pattern type. Visual Studio, C#, XML, GMap.Net, User Controls, DataSet, Serial Communication, NMEA. [Screenshots](#).

ExploPowder Inc, Bronx, NY

March, 2009 – present

Senior IT Consultant

A one man team. Good example of full stack development, using better technology for the

project - desktop application with data replication to replace current web application. Migrated current inventory data to SQL database with custom Cloud ETL tool for data synchronization. Converted Palm OS scanner application to Windows Mobile for more advanced Symbol scanner device.

- **ExploPowder Inventory Tracking System** - software to handle explosives inventory with data synchronization between multiple locations, bar code labels printing on Zebra printers, shipping/receiving reports, data communication with bar code scanner. Visual Studio, C#, MS SQL, ADO.NET, SAP Crystal Reports, RAPI (Mobile Device Remote Application Programming Interface), Windows Mobile Pocket PC (scanner), Symbol Barcode Design. [Screenshots](#).

Austin Star Detonator Co, Brownsville, TX

March, 2012 – March, 2015

Senior IT Consultant

- **Star Export** - software to create, maintain and print shipping documents for explosive and related products. Strong validation to comply with government regulations, license limit control, parts photo handling, data sync with company's central products repository. Existent Excel spreadsheets data has been converted to MS SQL database. Visual Studio, Window Forms, C#, MS SQL, ADO.NET, SAP Crystal Reports, Data Synchronization (Net.WebRequest). [Screenshots](#).

- **EIM Tester** - software to collect electronic detonators and electronic ignition modules test data with company's central repository data synchronization. Serial communication support for up to 20 serial ports through MOXA serial device server. Remote detonator's label printing. .Net resource files for localization (US and Czech). Visual Studio, C#, Window Forms, WPF, MS SQL, DB2/400, ADO.NET, SAP Crystal Reports, Serial Communication, Remote Label Printing (Net.Sockets). [Screenshots](#).

Anthea, Cleveland, OH

October, 2015 – January, 2016

Senior IT Consultant

- **www.antheaspa.com** - company web site migration to the latest version of PHP. Joomla, PHP, MySQL, HTML, CSS.

Enaex, Santiago, Chile

November, 2009 – July, 2012

Senior IT Consultant

- **Smart Blast Design** - Wrapper for company's most used prediction and design models to provide security, easy access and documentation. Vibration analysis, Flyrock prediction, Fragmentation calculation, Design Manager, Tunnel Designer. Visual Studio, Window Forms, C#, VB, OLE, XML, Sentinel HASP licensing and entitlement solution. [Screenshots](#).

KeyBase, Cleveland, OH

March, 2000 – May, 2000

Senior IT Consultant

- Delphi, Oracle Direct Access Objects, Oracle, PL/SQL. Developed Oracle package to convert data from the current production database to the new model oriented on Web access with multithreaded user interface in Delphi plus DOA. Oracle pipes were used to communicate between package and Delphi application.

Compuware, Cleveland, OH

October, 1998 – March, 2000

Senior IT Consultant

Over a million dollars government project to replace existed out of date software for Cuyahoga County Division of Children and Family Services. Worked as a member of a team of a dozen senior consultants. Helped improve performance of the data persistent layer code by switching to dataset cached updates and escalating use of database stored procedures.

- Lead Developer for Cuyahoga County Children and Families FACTS project. Delphi, Oracle, PL/SQL, Crystal Reports, IIS, ISAPI, MTS. FACTS replaced old mainframe system for Cuyahoga County Children and Families Services department. The project is to manage all agency's business including searching for person, family, service providers, incidents, incoming calls and other information, data entry with minimum risk of duplicate data, auto and manual scheduling system, employees case loading information support, hot-line calls entry. Project is Y2K compliant and based on two tiers Client/Server development technology. More than 700 users in Novell LAN, 70,000 lines of Delphi code, more than 300 tables in the Oracle database with total size close to 10GB operating under Solaris on SUN Ultra 3000 Enterprise computer.
- Developer/Instructor at InfoCition Management Corporation. Taught InfoCition IT staff to use client/server technology, SQL, T-SQL, ADO to help in their migration from Clipper/dBase to Microsoft SQL Server. Finished a project in VB, ADO, T-SQL, Crystal Reports to manipulate summary information based on more than 15,000,000 rows of historical telemarketing data.

Land Title Agency, Cleveland, OH

February, 1998 – May, 2000

Senior IT Consultant

- Lead Developer for Platinum Select project. Delphi, MS SQL Server, Transact SQL, Crystal Reports, MapX OCX for properties mapping information, Imagineer Technical for parcels charts searching module, Watermark for scanned deeds processing, Acrobat Exchange for publishing reports on the web, RightFax API for faxing reports. Platinum Select was designed to retrieve and compare properties information based on criteria entered in form of search index fields, operations and values. Real Estate Property Title company's Legal order was presented like a complete set of reports to be printed, faxed, e-mailed or published on the web.

Computer Communications Center, Cleveland, OH

January, 1998 – December, 1998

Visual Basic Instructor

- Taught Visual Basic and SQL programming class. PowerPoint, Visual Basic, MS Access

Amerisoft, Cleveland, OH

December, 1992 - May, 1993

Senior IT Consultant

- Developed the Clients/Consultants Processing System front-end in PowerBuilder and developed the back-end stored procedures in Gupta SQL Server.
- Prepared and taught advanced Access Basic programming classes to Amerisoft staff.

Black Sea Shipping Company, Odessa

November, 1983 - December, 1992

Programmer/Analyst

- Worked as a team member in number of projects focused on developing software to improve business practices for the biggest shipping company in Europe. These projects helped to automate data analysis including fleet's fuel expenditures, inventory, personnel, location for more the 300 cargo vessels. Radiogram parsing with errors detection and correction and data entry editor with autocomplete functionality, numerous static and interactive reports, custom B-Tree based data management system to optimize performance

in limited computing resources. Has been awarded the title of Best Young Professional. PL/1, Assembly for IBM 370, IMS DB/DC, db_Vista.

- Design and developed software utilities for interactive access to IMS database, library modules to access dBase data and index files from Pascal and C language applications, custom data storage and retrieval based on keys hashing, tool to build interactive application for IBM PC with separating core algorithm code from user interface part. Assembly, Pascal, C, Clipper, dBase.

Education

Odessa Technical University

MS in Computer Science and Business - 1978 to 1983

Work towards PhD degree - AI and Expert Systems - 1989 to 1992

Publications

- Methods and System for Blasting Video Analysis.
United States Patent Application Publication, US 2016/0104295 A1, April 14, 2014
- An Automated System for Flyrock and Fume Monitoring of Blasts.
International Symposium on Rock Fragmentation by Blasting, Sydney, Australia, August 2015