

## OBJECTIVE

Software Engineer / Technology Architect

## HIGHLIGHT OF QUALIFICATIONS

- Over 20 years' experience in Software design and development on Linux systems.
- Over 10 years' experience with building, controlling, and monitoring distributed systems on cloud platforms: Microsoft Azure and Amazon AWS
- Extensive experience in designing, developing and customizing LAMP applications.
- Extensive hands-on experience in customizing, deploying and maintaining Office 365 and Power Platform applications.
- Expert on designing, analyzing, developing, and deploying Java, Python, and PHP Products.
- Over 10 years' experience in JavaScript (Angular, Vue.js), Node.js and Web 2.0 Technology.
- Excellent team player while with strong leadership abilities.
- Proven ability to deliver production quality systems on time and budget under pressure in a multi-task environment and take them through multiple releases.
- Able to build relationships and work collaboratively with people at all levels in the organization, and also able to work independently without supervision.
- Proven ability to mentor and guide team members to make jobs done effectively and efficiently.
- A quick learner while with very strong analytical and problem-solving skills.

## TECHNICAL EXPERTISE

### **Programming Languages/APIs**

JavaScript, Node.js, SharePoint APIs, Power Platform APIs, Angular, Vue.js, SolrCloud, Tika, Hadoop, PHP, Python, Django, Zope/Plone, Drupal, WordPress, MediaWiki, Java, Elastic, Nutch, Tika, JUnit, Cactus, HTML/CSS, XML/XSL, XSLT, XPath, XML Schema, Web Services, C

### **Concepts/Methodologies**

SOA, Serverless, Microservice, DevOPs, SAML, PaaS, IaaS, Web Services/SOA, UML, OAuth, Auth0

### **Databases**

Azure SQL Database, PostgreSQL, MongoDB, MariaDB, MySQL, Oracle, , IBM DB2, SQLite

### **Application Servers**

Azure App Service, Attivio, Zend, Zope, IBM WebSphere, JBoss, Weblogic, SunOne

### **Platforms**

Microsoft Azure, Office 365, Microsoft Power Platform, Azure Data Factory, Amazon AWS, Linux/Unix

### **Tools**

Ansible, Buildout, Supervisor, Git, GitHub, Docker, vim, Maven, Ant, CVS, Subversion, Trac, Nutch

## PROFESSIONAL EXPERIENCE

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### **Technology Architect / Director**

LEOCORNUS LTD.

OCTOBER 2010 – PRESENT

Description: *In charge of design and implement modernized enterprise architectures for a wide variety of businesses and organizations. Provide guidance and technical assistance to various aspects of the whole organization.*

- Provide serverless and microservice architectures for various businesses and organizations.
- Design, implement, deploy and maintain stable and scalable collaboration and media platforms on Amazon AWS.
- Design, implement, deploy and maintain stable and scalable Linux infrastructures for the SolrCloud ecosystem, which provides the NOSQL and enterprise search platform.
- Sample project: COVID19 data virtualization: <https://covid19.leocorn.com>. SolrCloud is used as the NOSQL database.
- Sample project: Photo sharing demo site: <https://OurTimeTogether.ca>.

**Projects:****Polaris**

Description: *Design, implement, and maintain a fast, robust and smart search engine for the CSA Group online store (<https://store.csagroup.org>). There are more than 100,000 products listed on the online store. The search engine has served more than 3 million queries every month.*

- Design, implement, deploy and maintain stable and scalable Linux infrastructures for SolrCloud server, Tika server, and Node.js server on Microsoft Azure.
- Design and implement Node.js application to provide a secure and property protected download APIs for purchased or subscribed users to download PDF files.
- Solr schema design and implementation.
- Design and implement batch indexing process and live indexing process to build indexing data for binary files stored in Azure storage and SharePoint Online.
- Performing end user query log analysis and visualizing the insights on Microsoft Power BI, there are more than 3 million queries every month.
- Design and implement Azure Data Factory flow to transform data among different systems: SharePoint Online, Azure Docker containers, Salesforce, etc.
- Design and implement comprehensive and easy to use APIs for store frontend to search Solr indexing data.
- Providing relevance tuning to improve the frontend search results.

**Central for Customer (C4C)**

Description: *Design and implement a comprehensive Solr search solution for thousands of CSA customers to search 5TB testing reports and historical certificates on Microsoft SharePoint online.*

- Designed and implemented Solr schema for C4C project.
- Designed and implemented SolrCloud infrastructure for C4C projects on Microsoft Azure Docker Containers, which will provide high and fast availability and robust environment to scale.
- Designed and implemented the batch indexing process to build indexing for 5TB data (binary files stored in SharePoint Online) in SolrCloud.
- Designed and implemented the live indexing process to build indexing for on-going files flowing into the system.
- Provided and implemented various APIs for front-end to search Solr indexing data, including: suggester, autocomplete, search term highlighting, filtering by facets, group searching, etc.
- Designed and implemented Node.js application to offer efficient and secure download services for front-end applications.
- Provided comprehensive system admin work to maintain the Linux infrastructures (on Azure Docker Containers) for SolrCloud server, Node.js server, and Tika server.
- Managing all source code and configuration on source control system (Git), including responsibility for branching, merging, managing build and release pipelines.

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**Senior Backend Developer**

ACIS CONSULTING INC.

JULY 2017 – PRESENT

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**Projects:****AI Based Chatbot Application on Attivio**

Description: *Design and development Attivio backend for AI based Chatbot application. Attivio is the commercial product based on Apache Solr architecture.*

- Customize and deploy Attivio schema for the Chatbot application.
- Design and implement the process to feed data from various sources into the Attivio platform.
- Design, implement and deploy Attivio ingest transformers (data feeding) to fit in the Chatbot application's requirement.
- Design, implement and deploy Attivio search transformers to serve Chatbot application's cognitive queries.
- Providing performance tuning and day to day maintenance for the overall Attivio platform.

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**Technology Architect / Software Consultant**

TREASURY BOARD SECRETARIAT, GOVERNMENT OF ONTARIO

OCTOBER 2010 – JANUARY 2018

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**Projects:****OPSpedia and Media Delivery Service (MDS)**

Description: *Providing ongoing support, maintenance and enhancements as well as development for OPSpedia and Media Delivery Service (MDS). MDS stores and manages the media which is used by the Internet and Intranet Web sites of the Ontario Government. MDS is part of the OPSpedia platform. OPSpedia platform is the intra-government wiki, social networking and blogging platform. The platform has 16,000+ contributors, 1,100+ blogs (sites), and 30,000+ wiki pages. OPSpedia has an average 40,000 pageviews every day (based Google Analytics).*

- Providing day-to-day support and maintenance for OPSpedia/MDS: Linux sys admin, email/phone support, bug fixes, feature enhancements, theme development and review, plugin development and customization, MySQL/MariaDB tuning and sysadmin, etc.
- Continuously upgrading OPSpedia software stack to the most recent stable version: PHP, Nginx, WordPress/BuddyPress, MediaWiki, MySQL/MariaDB, Java, Solr, Elastic, Lucene, etc.
- On-going communication with internal clients and other stakeholders to provide day-to-day support for OPSpedia theme and plug-in development.
- Design and develop web applications which adhere to WCAG AA 2.0 for accessibility and which must run on multiple web browsers/different versions of web browsers.
- Design and develop the integration with Amazon S3 for MDS media storage and encoding.com for MDS media encoding service.
- Managing all source code and configuration on source control system (Git), including responsibility for branching, merging, managing build and release pipelines.
- Design and develop the ongoing MDS re-architect and MDS player AODA enhancement.
- Design and implement Apache Solr/Lucene based search engine for OPSpedia platform.
- Design and implement Elastic search for OPSpedia Wiki.
- Introduced and continually performing unit testing and functional testing for OPSpedia/MDS.
- Significantly improved OPSpedia platform's performance, stability, and extensibility by using Varnish, Memcached, Nginx, FastCGI and PHP-FPM.
- Contributed documentations in source code, OPSpedia wiki, and OPSpedia ticketing system.

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**Software Consultant**

MINISTRY OF GOVERNMENT SERVICE, GOVERNMENT OF ONTARIO

AUGUST 2009 – AUGUST 2010

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**Projects:****Performance Tuning and Single Sign-on Solution for 280+ CTS Plone Sites**

Description: *Providing Performance tuning and Designed and developed Single sign-on solution for more than 280 CTS sites in Government of Ontario collaboration platform, which serves more than 12,000 user accounts.*

- Monitoring and load testing CTS platform, offering different configuration settings for CTS platform to optimize performance for all CTS sites, **improved the performance by 25%**.
- Designed and developed Zope product to provide centralized user account management for all Plone sites within Government.
- Designed and developed Zope PAS Plug-ins leveraging on Government Active Directory to provide user authentication services.
- Designed and developed Django application to authenticate users on Proxy server based on user accounts on Plone sites.

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**Team Lead / Software Architect**

FILOGIX LIMITED PARTNERSHIP, DAVIS + HENDERSON. TORONTO, ONTARIO

FEBRUARY 2005 – JULY 2009

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**Projects:****PloneShellConsole**

Description: *PloneShellConsole is a Plone-based product. It provides a shell console within the*

*Plone site, which allows you to execute shell scripts on a remote machine, parse and analyze the result, and generate log messages as a Plone document.*

- Designed and developed PloneShellConsole based on **Plone 3**.
- Created certain **permissions** to allow site admin to easily manage the access privilege on a shell console by creating local roles, assigning permissions to roles, and adding roles to a user.
- Utilized **DTML** as the execution log message template, so end user can easily **customize** their own log message layout and format by themselves
- PloneShellConsole helped Filogix to reduce the build time from hours' work to 5 minutes work and eliminate the Build Master role from the workforce (save lots of money).

### **Express Development Wiki, WordPress based wiki for development team**

Description: Express development wiki is a WordPress based collaboration platform for Express development team.

- Deployed, configured, and customized WordPress as Express development wiki, which serves up to 12 team members.
- Set up and manage user accounts and permissions.
- Developed and customized WordPress plug-ins for the Express wiki: LDAP Authentication plug-in, photo galleries plug-in, event-calendar plug-in, etc.

### **Filogix Plone-based Development Portal**

Description: *Filogix Development Portal is a **Plone-Based** Extensive Content Management System for the Development Department. It provides an organized and effective way to manage the overwhelming artifacts about project development.*

- Deployed, configured, and customized **Plone 3** as Filogix Development Portal, which serves 10 teams and more than 50 users across the whole department.
- Set up and configured **user accounts, groups, roles, and permissions**.
- Designed and set up a daily process for using Portal: **Review** Process, **Publishing** Process, **Keyword** Management Process, **Versioning** Process, etc.
- Developed and customized **Plone add-on products** for Portal: FCKEditor, PloneShellConsole, Plone4ArtistsCalendar, etc.

### **Express 3.3 Multi-Lender Support**

Description: *Express 3.3 consolidates multiple Express instances into one physical instance, so that more than one institution/lender can use the same instance of Express for underwriting deals.*

- Interface with the product management team to finalize the function specification document.
- Develop design proposal and prototype for core modules.
- Contribute to the system **architecture design** and take ownership of the design and development of core framework and major components.
- Successfully **led 8 developers** to develop and deploy the system on time and budget.
- Strictly followed the **J2EE/Spring architecture** to ensure application server independence.
- Design and develop **unit test strategy** and keep maintaining the unit tests for the whole system.
- Provide **mentoring** and **guidance** to team members to make sure they understand the system correctly and to help them do the job efficiently.

### **Express 3.2 General Release**

Description: *Express 3.2 General Release is a combination of Express 3.1, NBC, AIG/UG, Desjardins, and dozens of CRs. It is the standard Express implementation for most of the current Express clients, and we will promote all Express clients to 3.2 GR by the end of this year.*

- Lead 3 developers to ship 3.2 General Release on time and budget.
- Preparing and giving training to team members about **JATO** Framework, **AJAX-Driven** Active Message Layer Framework, and **Copy Management** Framework.
- Refactoring and cleaning Express source code to make Express ready for **JDK 5**.
- Participate in design, code, unit test, and documents review to make sure of a high quality application.
- Designed and implemented CRs for Express 3.2.

### Express Release 3.1 and AJAX integration with JATO

Description: *Express Release 3.1 provides significant enhancements including Appraisal/AVM valuation service and closing service. Express 3.1 also implements many new features, which includes decline/bonus letter and disclosure statement.*

- Designed and implemented **AJAX-Driven** Active Message Layer Framework on **JATO** to boost Express's capability: prototype first, approved by the architect team, done the implementation, prepared documentation, passed QA, and deployed in production.
- **AJAX-Driven** Active Message Layer was successfully used in Appraisal/AVM and Closing Service. It became a design pattern for Express to implement similar functionalities: AIG/UG project is the first success use case.
- Provided guidance and mentoring to team members for **AJAX-Driven** Active Message Layer Framework

### Express Release 3.0

Description: *Release 3.0 is Express's major release in 2005, which includes dozens of enhancements and a bunch of CRs. Most Express clients are currently using this version.*

- Upgraded Express's logging mechanism to industry standard (**Jakarta common-logging** and **Log4j**).
- Eliminate the hardcode DB schema reference from Express source code to improve the **flexibility** of Express and **reduced** development and deployment cost for Express.
- Automated development and deployment lifecycle using **Maven** and **Ant**.

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#### Software Consultant

ICSA TORONTO CHAPTER, TORONTO, ONTARIO

OCTOBER 2004 – JANUARY 2005

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#### Projects:

##### International Customer Service Association (ICSA) Toronto Chapter Website

Description: *Provided software consulting to ICSA and developed ICSA Toronto Chapter website, which includes membership management, event web calendar, white paper management, newsletter management and other three modules.*

- Communicated with clients to analyze and document requirements, provided solutions, and delivered production quality systems on time and budget.
- Designed and implemented application using **ASP .NET**, **C# .NET**, and **MS SQL Server** with **MS Visual Studio .Net**.
- Provided daily support and maintenance to the application.

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#### Lead Java Developer

GNT INTERNATIONAL INC. BOSTON, USA

APRIL 2002 – OCTOBER 2003

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#### Projects:

##### InterBridge System

Description: *InterBridge provides a data integration solution among dozens of geophysical applications distributed over multiple **Solaris** workstations.*

- Successfully led a 3-member team to deliver InterBridge on time and budget.
- Provided mentoring and guidance to other developers.
- Performed database structure analysis on **Oracle** (8i, 9i), designed and implemented the Data Access Model by using **CORBA**, **JDBC**, **RMI**, **FTP**, and direct **Java I/O**.
- Designed and implemented the GUI Model by using **Java AWT/Swing** and **XML**, applied **multi-threads** in Java GUI applications to improve system performance.
- Designed and implemented an **XML-based MVC Framework** for UI application to improve system quality and productivity, utilized XML and **XSLT** to generate the i18n resources bundle properties files **automatically** for multi-language support.

### EDUCATION AND PROFESSIONAL CERTIFICATION

Beijing Institute of Technology

1993-1997

