

# Ahmed El-Hajjar

Software Engineer, Technical Writer, Business Analyst,  
Content Creator, Rideshare Driver

Email: [cdahmedeh@gmail.com](mailto:cdahmedeh@gmail.com)  
Phone: +1 (613) 800-9008  
Address: [Ottawa, ON, Canada](#)

LinkedIn: [linkedin.cdahmedeh.net](https://www.linkedin.com/company/cdahmedeh.net)  
GitHub: [github.cdahmedeh.net](https://github.com/cdahmedeh.net)  
Portfolio: [portfolio.cdahmedeh.net](https://portfolio.cdahmedeh.net)

## About Me

- Business analyst specialized in technical writing with extensive background in software engineering.
- Servant leader and mentor. Multipotentialite, aspiring polymath, creative, researcher, writer.
- Strong focus on interdepartmental communication and effective time management skills.
- Continuous learner and adopter of new skills and tech with initiatives to introduce them to others.

## Experience Highlights

### Technical Writer – Flybits

Mar 2024 – Present

### Blogger and Content Creator – cdahmedeh.net

Apr 2017 – Present

### Partner and Driver – Uber

Jan 2019 – Present

### Business Analyst and Technical Writer – Syntronic

May 2022 – Nov 2023

- Business analysis to transform requirements into implementation plan for medical sterilization lab.
- Develop, improve and edit user manuals and knowledge transfer documents to aid onboarding.
- Market successes of products and services through whitepapers and case studies.
- Simplify technical documents by other teams using readability analysis and revamped formatting.
- Production of copywriting and brochures to advertise products internally and externally.

### Technical Writer – Amazon

May 2022 – Sep 2022

- Document automation and robotics systems for knowledge transfer purposes from scratch.
- Heavily improve readability of existing documents using standard metrics and copious rewriting.

### Technical Writer – 1VALET

Jul 2021 – Jul 2022

- Write documentation for technical and non-technical users to get them up to speed on features, how to use them including detailed explanations, descriptions, sequence diagrams and mind maps.
- Work on a cross-functional cross-departmental basis. Collaborate with SMEs, developers and QA.
- Explore code and existing documentation to learn more about functionality and document features.

### Technical Writer and Support – Entrust

Oct 2020 – Jul 2021

- Learn best practices concerning web (TLS/SSL) certificates both in usage and installation.
- Wrote success guides enabling customers to secure servers without relying on other documents.
- Simplify workflows for support. Introduce use of graphical tools and package managers.
- Collaborate and work extensively with other departments for training and filling knowledge gaps.

### Senior Software Developer and Documentation Specialist – Cisco

Jun 2020 – Oct 2020

- Help port MSX from Java to Go to streamline runtime and reduce costs.
- Introduced new API endpoints for simplifying interoperability with AWS.
- Wrote extensive documentation on the architecture of MSX including text, diagrams, flow charts.

### Senior Consultant and Test Case Writer – ESDC Service Canada

Jan 2020 – Jun 2020

- Design test cases destined to QA team based on product specifications and requirements.
- Convert manual testing directives and scenarios to sophisticated and efficient automated tests.

### Web Developer, Server Admin and Deployment Documentation Specialist – Ford

Feb 2019 – Dec 2019

- Maintainer of What's In, web application that pairs JIRA with GitHub version history automatically.
- Deploy backend servers using Docker for ease of re-installation and isolation from other services.
- Setups were documented extensively allow repeat deployments from scratch.
- Creation of Jenkins plugins for automatic deployment and managing of build servers.

### Senior Software Engineer – ShopLiftr

Oct 2018 – Feb 2019

- Maintenance of cloud infrastructure on AWS with 24/7 monitoring of service on an on-call basis.
- Use of ML tools for reduction of product price data entry errors. Amazon ML and SageMaker.
- Maintain website powered by Spring Boot in Groovy and Angular 6.
- Document APIs through Confluence and Swagger.

### Software Developer – Lixar I.T.

Aug 2016 – Oct 2018

- Member of Concept Team, designing prototypes for new technologies such as OCR, VR, blockchain.
- Responsible for design of several backend projects exposing APIs for mobile and web applications.
- Product support with documentation: user stories, roadmap, specifications and code reviews.
- Take part in leadership roles, mentoring, architecture design and Agile processes.

## Volunteering

### Founder and Host – Ottawa Computing Group Social Club

Jun 2019 – Present

### Volunteer Lead – Ottawa Stray Cat Rescue

Feb 2020 – Present

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## Expertise

- Software Development – 13 years
- Technical Writing – 7 years
- Business Analysis – 4 years
- Content Creation – 5 years

## Education

- Software Engineering (Studies)
- Technical Communications (Studies)
- Business Analyst (Cert)
- Business Writing Immersion (Cert)
- Content Marketing (Cert)
- Project Management (Cert)
- Customer Service (Cert)

## Major Skills

### Writing

- Specifications, Business Analysis
- Technical Docs, Knowledge Transfer
- Whitepaper, Case Study, Copywriting
- Use Cases, User Stories, Processes
- Deployment, Configuration, Support
- User Manual, UX, Flowcharts, Guides
- Blog Posts, Marketing, Social Media

### Soft Skills

- Servant Leadership, Mentoring
- Interdepartmental Communication

### Programming

- Java, Python, Visual Basic, C#, bash
- Build Systems, Ant, Maven, Gradle
- Backend via Spring, Java EE
- Procedural, Multithreaded, Lambda
- Server-Side Rendering, Desktop Apps
- SQL Databases, Serialization
- Mobile App Prototyping, Android
- Version Control, Git, SVN, CVS
- API, REST, Scripting, Automation
- Test-Driven, Unit Testing, Integration

### Server Administration

- GNU/Linux, Windows Server, macOS
- Docker, Microservices, Virtualization
- SSH, Web Services, Init. Systems

### Development

- GitHub, BitBucket, JIRA, TFS, ADO
- Confluence, MediaWiki, Google Docs
- Agile, SCRUM, KANBAN, Kaizen
- CMS, WordPress, Squarespace

## Interests

- Coding, Electronics, Emerging Tech
- Reading, Blogging, Writing, Research
- Simulations, Gaming, Modding
- Automotive, Aviation, Transportation
- Non-Academic Research, Case Study

## Languages

- English, French, Arabic

## Keywords

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### Documentation

Specifications, Requirements, Technical Documentation, API Documentation, Knowledge Transfer, User Guides, Success Guides, User Experience, User Stories, Deployment Documentation, Support Documentation, Bug Reports, Test Cases, ReadMe, Version History, Changelogs, Prototyping

### Content Creation

Whitepapers, Case Studies, Ghostwriting, Copywriting, Editing, Blogging, Marketing, Social Media, Video Editing, Image Authoring, Announcements, Advanced Research, Fact Checking

### Soft Skills

Project Management, Servant Leadership, Mentoring, Peer Reviews, Interviews, Interdepartmental Communication, Subject Matter Expert (SME) Solicitation

### Business Analysis

Requirements Gathering, Specifications Development, Customer Interviews, Business Analysis Summaries, Visualization, Project Management, Product Ownership, Code Exploration

### Visual Modeling

Flowcharts, Processes, State Diagrams, Mindmaps, UML, Sequence Diagrams, Swim Lanes

### Development Methodologies

Agile, SCRUM, Waterfall, KANBAN, Kaizen, GTD, Pair Programming, Code Reviews, Grooming Sessions

### Task Tracking

JIRA, Trello, Todoist, PVCS, Rally

### Publishing Tools

Microsoft Word, Microsoft Publisher, LibreOffice Writer, Adobe InDesign, Scrivener, Google Docs, Microsoft Visio, draw.io, Balsamiq, Antidote, Markdown

### Authoring Tools

KDenLive, Sony Vegas, Adobe Photoshop, GIMP, FL Studio

### Collaborative Platforms

SharePoint, Google Drive, Quip, Confluence, MediaWiki

### Website Management Systems

WordPress, Squarespace, Wix

### Spoken Languages

English, French, Arabic

### Translation

French to English

### Programming Languages

Java, Visual Basic, C#, C++, Python, Ruby, Go, Pascal, Prolog, Scheme, PHP, Perl, Lua, Informix

### Programming Styles and Architectures

Procedural, Object Oriented, Lambda, Functional, Markup, Query Languages, MVC, MVVM, Server-Side Rendering, Single Page Applications, Multi-Threading, Caching, Dependency Injection, Advanced Data Structures, Annotations, Annotation Processing, Test-Driven Development

### Web Languages

HTML, CSS, JavaScript

### Shell Languages

bash, zsh, cmd.exe, Windows Batch, PowerShell

### Build Systems and Tools

Ant, Maven, Gradle

### Integrated Development Environments

Eclipse, Android Studio, IntelliJ IDEA, Visual Studio Code, SharpDevelop, Lazarus, Notepad++, vim

### Version Control

git, CVS, SVN

### Developer Platforms

GitHub, GitLab, Bitbucket, Azure DevOps

### Continuous Integration and Deployment

Jenkins, TeamCity, Bamboo, Azure DevOps

### Desktop Frameworks

Swing, SWT, JFace, JavaFX, JIDE, JGoodies, WebLaF, FlatLaf

### Mobile Development

Android, Firebase, APNs, Retrofit, ORMLite, Prototyping

### Backend Frameworks

Java EE, Spring, Sprint Boot, JHipster, Django, Ruby on Rails,

### Web Frameworks

Angular, Ruby on Rails, JSP, JSF, PrimeFaces

### Application Programming Interfaces

REST, SOAP, RMI, Swagger, Postman, flood.io

### Serialization

JSON, YAML, XML, DTO

### Database, ORM and Migration

SQL, NoSQL, PostgreSQL, MySQL, SQL Server, Informix, Oracle, JDBC, HikariCP, JPA, Hibernate, EclipseLink, MyBatis, Liquibase, Flyway, H2, SQLite

### Testing

JUnit, jMock, Mockito, Selenium

### Interop

JNA, Com4J, C# Interop

### Generic Libraries

Apache Commons, Guava, Retrofit, Project Lombok, JodaTime, JSR-310, Log4j

### Parsing

ANTLR, Regular Expressions (regex), grep

### Public APIs

Microsoft Cognitive Services, GitHub, JIRA, Google Maps, Amazon AWS, Reddit, RSS

### Services

samba, NFS, qBittorrent, Syncthing, Postgres, Apache, nginx, JBoss, WildFly, H2, RDP, VNC, SteamCMD, mpd, ShoutCast, systemd, Multichain, Asterisk, SIP, PBX, Tomcat, IIS

### Operating Systems and Administration

Windows, macOS, Linux (Ubuntu, Debian, Arch Linux, Gentoo, RedHat, OpenSUSE, SLES, EndeavourOS), Package Managers, GNU Utilities, SSH, RDP, Windows Server, Tiling Window Managers, Rooting, Jailbreaking, JTAG, BIOS, EFI, Disk Encryption, Full-Image Backups

### Virtualization and Containers

VirtualBox, VMWare, Docker, Docker Compose, AppImage

### Cloud

Amazon AWS, Microsoft Azure, DigitalOcean, Linode, Airtime, Namecheap, voip.ms, CloudWatch, flood.io, S3, SageMaker, Amazon ML, Redshift, Amazon DataPipeline, DynamoDB, LogEntries, HTTPS Certification

### Technologies

Machine Learning, Artificial Intelligence, Blockchain, Optical Character Recognition, Facial Recognition, Bluetooth, Proximity, Crash Detection, Software Radios, Embedded

### Electronics

Soldering, Circuitry, PCB Components, Arduino, Teensy, Raspberry Pi, Fritzing, Autodesk Fusion, 3D Printing, Basic FPGA Design, Quartus

### Automotive

AllData, Basic Car Maintenance, Manual Transmissions, Rev-Matching, Double-Clutching, Heal-Toe, Complex Navigation

### Simulation

Microsoft Flight Simulator, X-Plane, BeamNG.drive, Automation, Orbiter

### Research

Non-Academic Research, Case Studies, Reviews, Music Analysis, Blogging, Content Curation

## Experience

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**Business Analyst and Technical Writer – Syntronic – *Full-Time***  
*Embedded Systems and Medical*

**May 2022 – Nov 2023**  
*Kanata, ON*

### Technologies

Microsoft Word, SharePoint, Microsoft Visio, Adobe InDesign, Java, Python, React, Azure DevOps API ...

### Nordion Medical Sterilization Lab – Business Analysis

- Solicit client along with conversations, interviews and meetings to determine the requirements of their new automated medical lab.
- Transform requirements into software specifications along with an implementation plan for future software development.
- Create user stories destined to developers and testers to begin creation of the web software product. This included things such as acceptance criteria and test cases.
- Participate in discussions with developers concerning functionality and work with UX team to formalize use case scenarios.
- Collaborate with other writers to develop a business analysis summary showcasing the development plans as well as inconsistencies discovered during the business analysis process.

### Nordion Medical Sterilization Lab – Machine Learning Research

- Nordion wanted to explore ways to optimize their laboratory using their analytics data.
- We explored machine learning as a possible solution which was presented to the company, of which the initiative was greenlit.

### Nordion Medical Sterilization Lab – Specification Management Tool

- I developed a multiplatform tool that would automatically parse specification and requirement documents and create tickets in ADO.
- The tool was written in Java for portability and used standard libraries to parse the documents in PDF and Microsoft Word formats.
- Made use of the Azure DevOps API to transfer the specifications into the ticketing system.

### Nordion Medical Scheduler – Product Support

- The Nordion Lab Scheduler was nearly complete when I was onboarded.
- I was tasked with reviewing the existing documentation and become an expert on the product.
- My expertise was used for product demos, creating a summary user manual and optimize some of the UX.

### Syntronic Internal – Whitepapers

- Syntronic was developing several cloud technologies that they wanted to present to their existing customers.
- To promote these offerings, I created several whitepapers that the company would use internally.
- The audience was for leads of their clients therefore a fine balance had to be struck between a technical and non-technical writing style.
- Initially, the document was written in Microsoft Word, however it was untenable to create the desired professional look of the document, so it was moved to Adobe InDesign.

### Syntronic Internal – Product Brochures

- The company had developed several new components for embedded systems and required brochures to promote them to their clients.
- I had to become familiar with various aspects of embedded systems including circuitry, FPGA and low-level computing.
- The brochures were created with the signature and professional look so that it would be attractive to potential customers.

### Syntronic Internal – Documentation Enhancements

- Syntronic had a sizeable amount of R&D endeavours but often developers were reluctant to create detailed documentation.
- I had to take existing incomplete documentation and fill in the gaps with interviews with SMEs and my own knowledge.
- If I thought that a process could be simplified based on my software development experience, I would suggest it as an enhancement.
- I improved the clarity and conciseness of the English present in the documents and used objective metrics like Flesch-Kincaid to improve the readability of the text.
- The documents were made consistent so that they would look more uniform throughout and be easier to navigate.

**Technical Writer – Amazon – *Contract***  
*Robotics*

**May 2022 – Sep 2022**  
*Ottawa, ON*

### Technologies

Quip, Wiki, Linux, Java, Robotics, Webcams, GStreamer ...

### Knowledge Transfer Documentation

- Amazon had virtually no documentation about their robotic systems as it was still in early development although the features were fully fleshed out.
- Since the software required specialized hardware to run, I needed to solicit all my knowledge only from subject matter experts and collect them.
- My findings were presented in a reasonably technical fashion destined for new developers who would eventually work on the system.
- All the documentation was created in an easily navigable internal wiki.

### Readability Enhancements for Existing Documentation

- There was some documentation for miscellaneous features that were quite complex and needed simplification to be understood by new developers.
- General sanitization was applied as well as using readability metrics to measure how easy to digest the document was.

## **Technical Writer – 1VALET – *Casual*** *Smart Property Management*

**Jul 2021 – Jul 2022**  
*Gatineau, QC*

### Technologies

.NET Core, Confluence, Linux, C#, git, ...

### User Guides for Mobile 1VALET Application

- 1VALET had a swath of features that were not documented as user guides so tenants could not know how to use them.
- I worked with SMEs to learn about the various undocumented features.
- Some functionality was tribal knowledge and I was given access to their admin portals and source code. I was able to look into and understand the code and find out about these less well-known features and document them.
- The User Guides were created in a universal format for compatibility with both Google Docs and Confluence.
- Guides were destined to users who were not technical, so everything was simplified as much as possible with clear steps and screenshots.

### SR&ED Project – 1VALET Smart Intercom

- 1VALET was looking to demonstrate the innovations that they have implemented in their 1VALET product suite.
- They wanted to showcase the majority of the product, but the product team had trouble making a concise description of the features.
- Since the SR&ED document would be read by someone technical, I used more concise language and appropriate and precise technical terms.
- The result neatly fit the maximum amount of text that can be included in the SR&ED forms.

### 1VALET Server Linux Compatibility

- In order to document the product properly, I needed to run the stack to observe how it worked.
- Most developers were using macOS machines and the repository readme only included instructions on how to run it on macOS.
- For me to run the stack, I needed to run it in a Linux Virtual Machine for compatibility with my own system.
- After some research and my own experience with Linux, I was able to devise a method to run the stack on Linux with 100% feature parity.
- I documented the procedure in the readme file for the main repository.

## **Technical Writer and Support – Entrust – *Contract*** *Web Security*

**Oct 2020 – July 2021**  
*Kanata, ON*

### Technologies

- TLS/SSL, HTTPS Certificate, Microsoft Word, Adobe Acrobat, Apache, Tomcat, IIS, VMWare ...

### TLS/SSL Certificates

- Learn about TLS/SSL certificates to secure websites, services and documents. Learn the technical aspects of creating a secure certificate in a plug-and-play manner.
- Explore different types of certificates based on validation levels and types such as Wildcard, Multidomain and so on.

### Success Guides

- Success Guides are to enable customers to setup certificates to secure their websites and services from scratch without relying on other documentation.
- Use of simple vocabulary, idioms and other techniques for ease of read.

### Soft Skills

- Worked extensively with other departments for training and filling knowledge gaps.
- Collaborated with other teams to help them with prerequisite tasks.

### Simplification of workflows

- Reduced complex installation of certificate documents destined to support. Use of package manager and graphical tools instead of complex use of vi and manual compilation of software.

### Document Review

- Edit and review knowledge base articles, user guides for simplicity and ease of read.
- Organize KB articles for centralization and flow.
- Simplify documents as much as possible while including screenshots, charts and videos.

**Senior Software Developer and Architecture Documentation Specialist – Cisco – *Full-Time***  
*Telecom and Networking*

**Jun 2020 – Oct 2020**  
*Kanata, ON*

### Technologies

Java, Go, Spring, Rally, Confluence ...

### Port existing MSX from Java to Go

- MSX is an online networking system that allows Cisco to deploy routers, switches, VoIP over the cloud without requiring any additional hardware.
- For performance and efficiency reasons there was an effort to port MSX from Java (Spring Framework) to Go. I was part of that effort.
- Additional APIs were developed to make interacting with AWS simpler.

### MSX Documentation

- Wrote extensive documentation about the architecture of MSX including diagrams, flow charts and UML.
- Proper software engineering practices were followed including the writing of tickets, comments, user stories, tasks, API documentation, manual and automated test cases and more.

**Senior Consultant and Test Case Writer – ESDC Service Canada – *Contract***  
*Government Public Sector*

**Jan 2020 – Jun 2020**  
*Gatineau, QC*

### Technologies

.NET Core, Azure DevOps, Selenium, Citrus ...

### Project 1 – UI Testing Scripts for Modern ITRDS System

Develop UI Testing Scripts through Selenium framework using custom made Excel Spreadsheets  
Generate C# code from custom made scripts and optimize them and fix bugs.

### Project 2 – Transform Requirements to Test Scenarios

Understand requirements and changes from legacy systems to generate test scenarios.  
Manually test the scenarios to ensure that all criteria pass.  
Once manual testing was done, develop automated test scripts using custom tools and Selenium.

**Web Developer, Server Admin and Deployment Documentation Writer – Ford Motor Company – *Contract***  
*Automotive*

**Feb 2019 – Dec 2019**  
*Kanata, ON*

### Technologies

Jenkins, VirtualBox, Habitat, systemd, SLES, Spring Boot, Java, GitHub API, JIRA API, Flyway, Docker, DNS, HTTPS, Apache, nginx, Jetty, LDAP, OpenGrok ...

### Project 1 – What's In

- What's In is a Spring Boot project to map JIRA tickets to GitHub changesets using their respective APIs.
- Work on persisting user sessions using database mapping done through built-in Spring Libraries
- Correct issues with use of old APIs.

### Project 2 – Jenkins Enhancements

- Create Jenkins Projects to Automate Deployment of existing Internal Tools.
- Write Jenkins Plugins to enhance reliability of build projects and keeping track of state of Virtual Machines
- Setup Jenkins using custom scripts to discard build machines if builds constantly failed.

### Project 3 - Dockerization of Internal Tools

- Using Docker to keep existing web projects in isolated containers.
- Automated startup and shutdown of Docker projects through systemd.
- Handle mapping of DNS, load balancers and HTTPS certificates.
- Document every aspect of the Docker setup to permit redeployment and recreation of container.
- Containerized projects included configuration and setup of Apache, nginx, Spring Boot and Jetty servers.
- Deal with LDAP authentication to limit access to these services.
- Dockerized OpenGrok while keeping source code external to the container kept secure using Linux permissions.
- An Apache file browser was Dockerized. The goal was to browse Jenkins artifacts directly reducing load on Jenkins. The file browser was secured through LDAP to only allow authorized Jenkins users to view the artifacts.

**Senior Software Engineer and API Specialist – ShopLiftr – Full-Time**  
*Marketing*

**Oct 2018 – Feb 2019**  
*Ottawa, ON*

### Technologies

Java, REST APIs, JSON, Spring, Groovy, SQL, Hibernate, Gradle, Maven, Amazon AWS, SageMaker, Amazon ML, Amazon EMR, Amazon Datapipeline, CloudWatch, bash, git, Microsoft SQL Server, DynamoDB, Bitbucket, ...

### Admin Portal – Machine Learning

- Run of migrating legacy Amazon ML system to SageMaker for more accurate predictions on product prices and to limit product price entry errors from data teams.
- Explored different algorithms like XGBoost and various other linear and categorical ML algorithms to find optimal prediction results.
- Improved results dramatically of prediction system. RMSE was brought down to less than 1 detecting common errors in price input by the data entry teams.

### AWS Infrastructure - Maintenance

- Basic maintenance and fixes for issues on Amazon AWS.
- Communicate with Amazon on bugs found in their service.
- Optimizations to the architecture and working on simplifying it.
- 24/7 monitoring of systems on an on-call basis.

### Full-Stack Development

- Fix and maintain application using Spring backend written in Groovy with Angular 6 frontend.
- Reduce performance issues due to limitations in Groovy language.
- Enhance branding and look and feel through Photoshop.

### Swagger Migration

- Migrate all API documentation to Swagger.
- Allowed team to test APIs without using any external tools.

### Documentation Enhancement

- Set protocols for detailed JIRA tickets including API functionality and error reporting and estimates.
- Create and update existing documentation for undocumented parts of the stack.

## **Software Developer – Lixar I.T – *Full-Time*** *Emerging Technologies*

**Aug 2016 – Oct 2018**  
*Ottawa, ON*

### Technologies

Java, REST APIs, JSON, Spring, Spring Boot, SQL, Postgres, H2, Hibernate, JUnit, jMock, Mockito, Apache Commons, Guava, Gradle, Maven, Django, Blockchain, SDR, Estimote, Amazon AWS, Firebase, APNs, CloudWatch, LogEntries, Microsoft Azure, Portainer, Docker, Docker Swarm, TeamCity, bash, git, BitBucket, Linux, Android, Google Maps API, Microsoft Cognitive Services, OCR...

### LWAYVE – Product Support

- LWAYVE is an innovative SDK that integrates into other Android and iOS mobile applications allowing audio streaming by determining what the user wants to hear based on time, GPS location, proximity to Bluetooth beacons and even role within an organization. In other words, LWAYVE allows the user to hear the right content at the right time.
- Customers included NASCAR, Osheaga Music Festival, Halifax Pop Explosion and many others.
- Developed documentation and organized meetings to improve existing software and suggest new ideas that that helped the company stay innovative and flexible. As a result, sales have more pitches to sell the software to more customers as the software had more features and was more stable.
- Kept a constant stream of communication with product owners and managers enhancing understanding of user stories, specifications and product goals.
- Create new designs and architectures to reduce technical debt and enrich software functionality.
- Followed various agile principles such as SCRUMs, Pair Programming, Code Reviews, Grooming Sessions and KANBAN to maximize developer productivity and release products in a timely fashion.

### LWAYVE – Backend

- I was the sole owner of the backend for LWAYVE and the only developer. I was responsible for all bugfixes, feature implementation, user stories, documentation and demos.
- Created RESTful API web service using Spring Boot and JHipster. API was used by all parts of application including iOS SDK, Android SDK, Web Portal, RedShift Analytics and GSHEET Playlist Generator.
- Developed a Push Notification System using Firebase Google Cloud Messaging and APNs (Apple Push Notification Service) to send instant notifications to users.
- Built an efficient audio stream storage system using Amazon S3 Cloud Storage. It allowed both mobile devices to send recordings and the web portal to upload MP3 files.
- Playlist JSON was designed with an upgradable schema with automatic versioning through the Jackson JSON serializer and versioning module. It reduced efforts to add features to playlisting functionality and allowed backwards and forwards compatibility with the mobile SDKs.
- Automatic documentation of APIs and web testing portal implemented with Spring Annotations and Swagger UI.
- Optimized playlist retrieval API with caching using Hazelcast. This allowed millions of requests to be done per minute without making any database calls to Postgres.
- Backend ran in micro-services architecture using Eureka and Zuul in a Docker Swarm.
- Assisted QA in developing test cases for test automation thus reducing regressions.
- The backend contained unit tests through JUnit, JMock and Mockito using an in-memory H2 database. This reduced regressions and we had code coverage of 90%. I would refuse code reviews if no manual testing was done.
- While almost all database tasks were handled via Hibernate, I sometimes implemented custom queries for optimizing frequently used APIs such as playlist retrieval.

#### LWAYVE – Documentation

- Composed User Stories for the product team in order to assist in defining new features and fixes along with acceptance criteria.
- Extremely thorough API documentation with regular usage, incorrect usage, success messages and failure messages specifically designed for mobile and web developers.
- Proper Software Engineering practices through detailed tickets, code reviews, comments and more.
- Marketing and Sales documents to increasing area of sales pitches for sales team.
- Architecture documentation including diagrams for alternate designs for the software.

#### LWAYVE – DevOps

- Maintain deployment tasks via TeamCity with automated bash scripts reducing deployment times to several minutes. Downtime between updates lasted only 2-3 minutes though the mobile applications remained functional during the downtime.
- Preserve logs across sessions with Amazon CloudWatch and LogEntries allowing easy debugging of staging servers or production server errors.
- Create configuration files and deployment scripts including Docker Compose files and store them in git repositories to allow code reviews and versioning.
- The micro-services could be scaled automatically using AWS Auto Scaling Groups.
- Deployed micro-services to both Microsoft Azure and Amazon AWS. JMeter was used to benchmark any performance differences.
- Documented every failure of production in Confluence including time, failure mode and resolution. This allowed the team to resolve persistent issues without having to discover the cause again.

#### LWAYVE – Release Support

- Handled all release branching on git include merges to master and tagging.
- Implemented automatic merging functionality in BitBucket that merges code into downstream branches. This simplified how code was merged into the various repositories without manual intervention improving developer productivity and prevented accidental merges into wrong branches.

#### LWAYVE – Android

- Helped in the creation of Native Android SDK to allow clients to integrate our technology into their mobile applications.
- Designer of Decision Tree Library which was shared by the backend and Android SDK. A dependency-free design allowed the Android SDK to maintain high performance on less powerful devices.
- Alleviated workload on main Android developers with bug fixes and code reviews.

#### Design and Concept Team – Sales

- The Design and Concept is a Research and Development lab at Lixar that explored experimental technologies to determine emerging tech and possibly the future of Lixar.
- The Vision and Implementation had to be implemented in short time frames that lasted less than a few days.
- Demos to sales were made to demonstrate how the product could be sold.
- Provide support for sales when required. Some projects would eventually become production quality and sold to clients.

#### Design and Concept Team – Blockchain

- Was the pioneer of blockchain at Lixar. Few understood the technology, so I took the task of making presentations to explain it in very simple terms.
- Created a proof-of-concept using Multichain and Django (Python) that would allow multiple organizations to share files instantly and verify their authenticity.
- The concept led to a sale to Enform, a certification validation organization and the blockchain concept was also used to remunerate artists for having their tracks played on LWAYVE.

#### Design and Concept Team – Proximity Projects

Developed and tweaked proximity sensors with Bluetooth beacons improving performance of ProxSee product. ProxSee is software that tracks user locations without draining battery with low-energy Bluetooth beacons and GPS.

Implement Wi-Fi sniffers to detect nearby smartphones without needing additional software.

Software defined radios tuned to cell phone tower frequency to detect location with triangulation. Became a prototype functionality for ProxSee.

#### Design and Concept Team – Face Recognition

- Using the Microsoft Cognitive Services API, leveraged face detection and recognition with facial parameters to measure analytics.



- Combined motion detection and hardware facial recognition for initial scan for enhancing performance.
- Was used successfully as a PoC in a pet store, Pet Valu, to implement a dashboard that demonstrated returning customers, age, gender, time of entry and exit, and other parameters. They are looking to implemented similar technologies for detailed analytics.

#### Android Mobile App – MVCS Crash Detection

- Designed a PoC for detecting vehicles crashes through accelerometers and microphone levels.
- Updated branding of application to match new company logos with image editing tools.

#### SRED Project – FlyScan

- Designed tool for finding original document by scanning or photographing a loose page.
- Used OCR for detection of words in the document.
- Enhanced text search performance by reducing search space and heuristics for Lowenstein distance and common English words.
- Explored Machine Learning, Neural Networks and Map-Reduce as alternatives to OCR.
- Wrote entire SRED Document in order to display the innovative nature of the product along with all the components and research efforts and procedure.

#### Mentoring

- Helped other developers (intermediate and junior) to get up to speed on new technologies.
- Mentor junior developers and help with career progression.
- General go-to-person for questions on software stacks on various platforms include the JDK.

### **Software Engineer – NorthStar Utilities Solutions – *Full-Time*** *Utilities Sector*

**Dec 2013 – Oct 2016**  
*Ottawa, ON*

#### Technologies

Java, REST APIs, XML, XML-DTD, Java EE, EJB, JAX-RS, Swing, JSP, JSF, PrimeFaces, SQL, Microsoft SQL Server, Informix SQL, Oracle SQL, JDBC, Hibernate, Windows Server, Linux, Unix, HP QTP/UFT, Ant, Tomcat, JBoss, WildFly, Bamboo...

#### NorthStar Customer Information System

- Implement new features and bug fixes as a full-stack developer in all layers of application whether it was database on JDBC, backend running in Java EE, desktop via Swing and SWT or Web UI in JSP and JSF.
- Implemented a database caching feature that would retain results from SQL queries.
- Redesigned desktop UI based on Swing and SWT to have a more modernized appearance.
- Wrote multi-database compatible queries that worked in Informix, Oracle and Microsoft SQL Server in the backend.
- Was responsible for Customer Information System, Billing, Financing, Automation Platform and Customer Portal Components.

#### NorthStar Automation Platform

- Maintained Automation Platform which allowed clients to automate certain tasks via a graphical environment.
- Created a SQL Query converter using ANTLR that would parse queries and convert them to queries compatible with Informix, Oracle and SQL Server. Missing functionalities would be handled via stored procedures.

#### NorthStar Releases

- Handled software releases, packaging and deployment. I automated much of the tasks via Windows Shell Scripts, Ant and PowerShell

#### Insight Project

- Insight was an experimental project that would allow users to create dashboards based on Web APIs, web page scraping, CSV files and database connections.
- Stack was created with a modern backend and frontend using Java EE, JSF and PrimeFaces.
- Aspects of the stack were transferred to the CIS (Customer Information System).

#### Initiatives for Architectural Improvements

- Heavy focus on architecture and code quality. Hosted meetings with superiors to discuss road-plan and include refactoring as part of future development of the software. Included detailed project plan, estimates, tickets and possible burn-down charts.
- Convinced Software Architect to have me develop a rewrite for the build scripts for the main CIS project. I rebuild the Ant build script reducing both code size by several factors and improving build time from 30 minutes to 45 seconds.
- Converted ancient use of Tomcat web server to JBoss/Wildfly vastly improving runtime of CIS.

#### NorthStar QA Initiatives

- Encourage developers to write test cases before QA did to ensure that QA would spend less time testing features and would require less documentation.
- Restored broken HP QTP/HTP instance which allowed QA to finally re-run their automated tests after several months of downtime.

#### Environments Administrator

- Maintained all R&D server infrastructure ensuring their constant functioning and writing scripts for automating tasks using batch files and PowerShell.
- Handled all database backups including nightly deployment of backups for staging servers using SQL Server Administrator.
- Deployed and provisioned environments for QA as they needed them.
- Monitor servers through SSH and RDP and respond to internal needs based on importance of failures and their impact on the various teams.
- Maintained Bamboo for automatic builds and created new build projects. Reduced workload on support since they didn't need to build the project manually or get a copy from developers.

#### Mentoring

- Helped other developers get up to speed on new technologies.
- General go-to-person for difficult questions on JDK.

**Software Developer – Teldio – *Full-Time***  
*Telecom*

**May 2013 – Aug 2013**  
*Kanata, ON*

#### Technologies

- Java, Swing, Ruby on Rails, Asterisk, PBX, Twitter Bootstrap, HTML, CSS, AJAX, JavaScript...

#### Teldio Portal

- Used Ruby on Rails for implementing bug fixes and new features.
- Extensively worked with Asterisk, PBX and SIP Trunks for managing radio-to-phone communications.
- Developed emergency alerting system API for radio and telephones through SIP.
- Modify InnoSetup scripts when software dependencies changed.

#### Internal Tools

- Developed internal tools to increase productivity of employees using Ruby on Rails. Tools included automated releases to S3 that would compile from source. Twitter Bootstrap was used for making the internal tools look more pleasing.

#### Mentoring

- Mentor a senior developer who was unfamiliar with Swing.

**Software Developer – MediaVantage – *Full-Time***  
*Social Media*

**Sep 2012 – Dec 2012**  
*Ottawa, ON*

#### Technologies

Java, Java EE, JSP, JSF, GIMP, Jenkins...

#### MediaVantage Portal

- Followed Agile Software Principles as a software engineering methodology.
- Used Test Driven Development practices to prevent regressions and for validation using JUnit.
- Managed and implemented VMs using VirtualBox on various Linux platforms for testing web services.
- Maintained and corrected bugs for advanced web services written using JSP, JSF, Java and other web service technologies.
- Wrote documentation for web services deployment that use Tomcat and Pentaho software technologies.
- Redesigned UI elements by hand using GIMP to modernize appearance.
- Created modules for exporting reports in native Microsoft Open XML format.
- Modifying Jenkins scripts due to new features.

#### **Software Engineer – NorthStar Utilities Solutions – *Full-Time*** *Utilities Sector*

**May 2011 – Dec 2011**  
*Ottawa, ON*

#### Technologies

Java, Swing, JDBC, Ant, Unix, Informix, 4GL...

#### Customer Information System – Sustaining Team

- Member of the Sustaining Team focused on bug fixes and new features implementation written in Java on a Java EE platform.
- Wrote software patches to implement new features based on client requirements.
- Modified legacy Informix-4GL code on classic Alpha DEC Unix environment.
- Used version control system CVS to submit code changes.
- Familiarized myself with code review processes and pair programming.
- Prepared presentations for coworkers and clients for various purposes.

#### **System Administrator – LaraTel Telecom – *Part-Time*** *Telecom*

**Jan 2009 – Apr 2011**  
*Ottawa, ON*

#### Technologies

Windows...

#### General System Administration

- Maintained employees' computers with software updates, operating system upgrades, virus removal and other routine verifications on Windows machines.
- Installed employee-specific software based on their job description and requisite tasks.
- Trained employees on using unfamiliar software to effectively increase their work productivity.

#### **Automotive Mechanic – South Keys Garage – *Apprenticeship*** *Automotive and Machinery*

**Sep 2007 – Aug 2008**  
*Ottawa, ON*

#### Technologies

AllData, kBilling...

#### General Automotive Diagnostics and Garage Management

- Developed problem solving skills through diagnostic and resolution of automotive issues.
- Determined most cost-effective solutions to remedy malfunctions without compromising longevity or safety.
- Applied safety precautions and employed cautious use of dangerous machinery and repair equipment.
- Used financing software kBilling for basic financing and invoicing.
- Communicated complex automotive malfunctions to customers who have limited knowledge of said systems.
- Made use of AllData software to find documentation on vehicles.

## Volunteering

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### **Founder and Host – Ottawa Computing Group Social Club – *Science and Technology***

**Jun 2019 – Present**

- Offer a freeform platform for discussing technology, current affairs, emerging technologies and computing projects.
- Help newcomers to software development learning programming and provide resources for learning.
- Sharing of projects and provide a collaborative and demonstration environment.
- Facilitate conversation and sharing of ideas through suggested subjects select by me and members.
- Handle all reservations, invitations, RSVPs, virtual online meetings, selection of venues and other preparations.

### **Volunteer Lead – Ottawa Stray Cat Rescue – *Animal Welfare***

**Feb 2020 – Present**

- Organize, manage and promote fundraising events to bring awareness to the cause of the organization.
- Manage and station volunteers for various events.
- Drive cats to veterinaries and hospitals for surgeries, vaccinations, spaying, neutering and other treatments.
- Handle donations for various cat supplies, food among others

### **Member – MDO – *Social Services***

**Sep 2017 – Present**

- Support group for dealing with those who have mental and physical challenges.
- Provide resources and assistance for creating support network with doctors, therapists and social workers.

### **Member – Center for Inquiry – *Human Rights***

**May 2017 – Jan 2019**

- Promote skepticism and secularism through community outreach and cooperation.
- Build a fair, cohesive and inclusive community by ensuring quality and diversity.
- Occasionally moderate weekly discussions and debates in secular chat sessions.

### **Mentor and Tutor – Freelance Computer Science Training – *Education***

**Oct 2013 – Present**

- Offered voluntary services for computer science training through word of mouth.
- Focused on architectural design, programming skills, good engineering practices and soft-skills.
- Students often found jobs and maintained them after one-year follow-up.

### **Tutor – Mathematic and Science Tutoring – *Education***

**Sep 2007 – Dec 2008**

- Helped students struggling in various subjects such a mathematics and physics.
- Tutoring was provided free of charge and on own initiative.
- Students who were tutored performed better and had improved results in formal exams.

**Studies in Computer and Software Engineering, Computer Science – University of Ottawa****Sep 2009 – Dec 2014**

- Entered with Nortel Scholarship at maximum amount for excellent grades. Also was a Dean's Lister.
- Studied in both French and English and obtained Fellowship for French Studies.
- Participate in discussions with program coordinators to implement improvements in the program.

Relevant Courses

ADM 1500	Administration and Business Management
CEG 2536	Computer Architecture
CSI 2101	Discrete Structures
CSI 2510	Data Structures and Algorithms
CSI 2520	Programming Paradigms
CSI 2532	Databases
CSI 2722	C++ Programming
CSI 3104	Introduction to Formal Languages
CSI 3105	Design and Analysis of Algorithms
CSI 3140	Technical Web and Standards
CSI 3531	Operating Systems
CSI 4107	Information Retrieval
CSI 4124	Modelling and Simulation
FRA 1528	Technical Writing (French)
ITI 1500	Digital Systems
ITI 1505/1521	Introduction to Computing I and II
SEG 2505	Introduction to Software Engineering
SEG 2506	Software Design
SEG 3125	UX and User Interface Design
SEG 3501	Software Specifications
SEG 3502	Software Architecture
SEG 3555	Network and Communication
SEG 4105	Project Management
SEG 4154	Real-Time Embedded Software

**Studies in Technical Communications – Simon Fraser University****June 2018 – November 2018**

- Develop skills in technical writing and communication
- Online and offline tools for publishing
- Indexing documentation and sciences
- Project Management
- General writing skills both on technical and emotional levels

Relevant Courses

TCOM 110	Concepts and Practice of Technical Communication
TCOM 120	Technical Writing and Editing

**Ontario Secondary School Education – ESP Omer-Deslauries****Sep 2005 – June 2009**

- Holder of Certificate of Bilingualism and graduate of International Baccalaureate Program
- Honours in Computer Science, Mathematics and Physics.
- Winner of attendance prize at graduation.

Relevant Courses

BTT 10E	Introduction to Computing and Visual Basic
TTI 10E	Introduction to Technology
TIK 20E	Computing, Technology and Robotics

**Business Analyst – ExpertRating Inc.**

Jan 2020

- Bridge gap between IT and business operations and use analytics to assess processes and determine requirements.
- Deliver data-driven recommendations to executives and report to them to ensure efficiency of business functions.
- Analyze multiple aspects of a business to maximize business performance and adaptability to current trends.

**Business and Technical Writing Immersion – StarWeaver Team**

May 2021

- Use various techniques to write easy to understand, economical and simple documents for complex projects.
- Explore various tones and take into account reader's emotions relating to personal, technical and emotional aspects.
- Optimize relationship between length and descriptiveness of technical documents for brevity and ease of read.

**Content Marketing – HubSpot Academy**

Oct 2023

- Create strategic methods for producing high-quality content that appeals to targeted audience and clients.
- Develop plans to identify, manage and reach company goals with a long-term vision.
- Measure and assess return on investment through tracking of existing and new content and enhance through SEO.

**Project Management – Simplilearn**

Oct 2023

- Assist executives with project planning, time management and ensuring an efficient process for new and old projects.
- Enhance communication between stakeholders to ensure that everyone is in line with company goals and objectives.
- Plan balance between marketing and project planning along with meeting strict deadlines.

**Customer Service – Alison**

Oct 2023

- Learn how to provide excellent customer service and focus on their needs using appropriate etiquette.
- How to handle difficult customers and complaints and provide resolutions.

**Creative Writing Specialization – Coursera**

May 2021

- Craft stories and narratives for both non-fiction and fiction texts using techniques to absorb readers' interests.
- Focus on short stories, narrative essays, memoirs in a descriptive style in various genres both content and technical.
- Explore character development, story's relationship to reality for creative purposes to be adapted to any kind of text.