



Bardia Khosravi

Principal Software Engineer

CONTACT

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CORE SKILLS

Software Architecture

Engineering Leadership

System Design

Microservices (Hexagonal Architecture)

Domain Driven Design

LLM Based Applications

Context Engineering

Cloud (AWS/GCP)

EDUCATION

Master of Engineering (MEng)

University of Waterloo

Systems Design Engineering
2007-2011

B.Sc Software Engineering

Budapest University of Technology
1999-2003

Research - Pattern Recognition

Loughborough University
2003-2006

CERTIFICATIONS

Machine Learning

Stanford University, Coursera

SQL For Data Science

UC Davis, Coursera

Professional Scrum Master (PSM I)

Scrum.org

ABOUT ME

Principal Engineer with 20 years of experience helping organizations turn ambitious business goals into executable roadmaps and high-impact software. I specialize in software architecture, microservices, and technical leadership — designing systems from scratch and establishing architecture practices that drive sustainable growth. I bring expertise in cloud platforms and GenAI, and a track record of building high-performing teams across startups, mid-size, and enterprise environments.

EXPERIENCE

Principal Engineer

May 2024 - Present

INTUIT

Toronto, Ontario

- **Development Acceleration:** Assessed the TurboTax Canada development landscape, defined and executed an architectural roadmap that reduced development timelines by 50%, significantly increasing delivery velocity.
- **GenAI PDF Comparison:** Architecting and leading the development of a GenAI-powered solution to analyze PDF tax forms, enabling tax experts to efficiently evaluate legislative changes.
- **Coaching and Mentorship:** Mentoring staff and senior engineers on technical leadership, career progression, and promotion readiness, fostering both organizational and individual growth.
- **AI-Powered Tax Research:** Designed and delivered a Retrieval-Augmented Generation (RAG) solution for tax artifacts, empowering experts to query forms, instructions, and brochures, accelerating research and decision-making.

Principal Engineer

Sep 2023 - May 2024

HOMEBASE

Toronto, Ontario

- **Architecture Reviews:** Reviewing and contributing to all architectural RFCs at homebase
- **React Native Architecture:** Leading the architecture and implementation of approach and implementation of a micro-frontend framework for mobile apps in React Native
- **Monolith Decomposition:** Actively pairing with engineers in various teams to refactor the monolithic service to domain oriented services.
- **Mentorship:** Mentoring of senior engineers and staff.

Principal Engineer

Sep 2020 - Sep 2023

FRESHBOOKS

Toronto, Ontario

- **Personalization Platform:** Designed and implemented a service enabling audience-based recommendations for web and mobile clients, empowering product and marketing teams to deliver personalized content and significantly improve user engagement.
- **Reference Architecture:** Led the creation of a hexagonal architecture reference implementation in Python, establishing the organizational standard for microservices. This initiative streamlined development practices, fostered a shared architectural language, and laid the foundation for improved domain modeling.
- **Domain-Driven Design:** Directed the re-architecture of core platform components to evolve towards domain-oriented microservices, increasing modularity and scalability.
- **Architecture Advisory Forum:** Founded and chaired a cross-team forum to drive architectural decision-making, resulting in more consistent, efficient, and effective engineering outcomes.
- **Technology Radar:** Introduced and integrated a Technology Radar to guide technology adoption, aligning engineering choices with business objectives and ensuring proactive evolution of the tech stack.
- **Engineering Principles:** Authored and published a set of engineering principles that provided clear guidance across teams, raising code quality and development consistency.

TECH STACK

Python Google Cloud JavaScript

Director of Data Engineering

Feb 2019 - Aug 2020

NOMIS SOLUTIONS

Toronto, Ontario

- **Scalable Data Validation:** Designed and delivered a serverless data validation service that validated large CSV files against JSON Schema. Reduced validation time from days of manual effort to near-instantaneous results, while providing detailed reporting that improved reliability and accelerated data workflows.
- **Schema Management Service:** Built a standalone system for creating and managing JSON Schemas, standardizing customer data formats and enabling efficient versioning and integration with the validation service.
- **Data Ingestion Pipeline:** Developed a centralized ingestion service to consolidate and monitor data feeds from multiple public sources into the Greenplum database, improving visibility and consistency across datasets.
- **Architectural Leadership:** Served as a core member of the architecture group, reviewing and shaping critical design decisions to ensure alignment with strategic objectives and best practices.
- **Team Leadership:** Recruited, led, and mentored a team of 6 data/software engineers while providing oversight to 10 additional data engineers, fostering collaboration and technical excellence.

TECH STACK

Python Greenplum Database AWS (Lambda, API Gateway, SQS)

Director of Software Engineering, Consultant

Jul 2018 - Feb 2019

ROYAL BANK OF CANADA (RBC)

Toronto, Ontario

- **Engineering Practice Foundations:** Established the core team structure and architectural foundations for the RBC Loyalty and Rewards platform, setting the stage for long-term scalability and innovation.
- **Cross-Platform Leadership:** Directed engineering efforts across web, Android, and iOS teams for www.rbc rewards.com and companion mobile applications, driving alignment and informed decision-making.
- **Solution Architecture:** Guided solution design and architectural decisions that enabled the successful launch of the RBC Rewards website and mobile applications.

Solutions Architect

Nov 2014 - Mar 2017

ACCEDO

Toronto, Ontario

- **Configuration Driven App Development:** Addressed the challenge of accelerating mobile app development by architecting a configuration-driven approach for dynamically rendering mobile apps at runtime. Developed a comprehensive schema encompassing all app aspects, including components, data sources, UI, and navigation.
- **SaaS Platform Development:** Led the architecture and development of a domain-oriented SaaS platform for the above app builder, contributing significantly to the company's revenue. My role encompassed backend architecture, technology stack selection, and hands-on development of both backend and frontend components.

TECH STACK

AWS Services (API Gateway, S3, Cognito, Lambda, SQS, SNS, Elastic Beanstalk)

Elasticsearch

TypeScript

React.js

Node.js

Architect / Team Lead

Dec 2013 - Nov 2014

KLOUDVILLE, KLOUDVILLE.COM

Toronto, Ontario

- **Innovative UI Framework Development:** Pioneered the development of a highly dynamic and customizable JavaScript-based UI framework for the creation of new UI modules for Kloudville's e-commerce platform.

TECH STACK

JavaScript

Solutions Architect

Dec 2011 - Sep 2013

XYRATEx

Toronto, Ontario

- **Development and Architecture:** Acted as a key member of the team developing a distributed application to manage and monitor a storage cluster

TECH STACK

Python

Twisted Matrix

JavaScript

Dojo Framework

Software Developer Consultant

Sep 2011 - Feb 2012

NUANCE COMMUNICATIONS

Waterloo, Ontario

- **Remote Android Device Viewer:** Designed and developed a remote/browser-based Android device viewer. This solution allowed remote access and viewing of Android devices, enabling efficient troubleshooting, and debugging of a printer screen that was being developed by the company.

Software Developer

Jan 2008 - Sep 2011

BLACKBERRY

Waterloo, Ontario

- **Phone Application Team:** Member of the BlackBerry Phone Application team, contributing to the development and enhancement of critical phone-related features.
- **Feature Development:** Contributed to the development of features such as call logs, smart dialing, dialing experience user interface and 3rd party integration middle-ware

TECH STACK

Java

Software Developer

Feb 2006 - Jan 2008

MICROFORUM SERVICES GROUP

Toronto, Ontario

- **Mobile Video Surveillance Application:** Successfully developed a sophisticated mobile video surveillance application that enabled real-time video streaming to mobile devices.
- **Mobile Game Porting:** Ported source code to multiple platforms, including J2ME and BlackBerry.
- **Patent:** Call note management on communication device, Patent #20110086627

TECH STACK

.Net Framework

J2ME (Java)

Windows Phone

BlackBerry