



## PROFILE

As a Lead Software Engineer, I utilize my extensive expertise to drive the success of software projects by designing robust systems, making crucial technology decisions, and conducting thorough code reviews. I cultivate a culture of excellence by advocating for mentorship, facilitating training sessions, and fostering clear communication channels with both technical and non-technical team members. I actively participate in refining software development methodologies, tackling intricate challenges alongside cross-functional teams, and prioritizing the professional development of junior engineers to establish an environment conducive to continuous learning. Armed with a Ph.D. in Computer Science and a master's degree in data analytics, I seamlessly integrate theoretical knowledge with practical proficiencies in artificial intelligence (AI) and data analysis. My passion for AI fuels my exploration of machine learning intricacies, driving contributions to innovative applications. Proficient in data analysis, I adeptly collect, process, and extract insights from data sets. Committed to remaining at the forefront of technology trends, I am enthusiastic about applying my skills at the convergence of AI and data for impactful projects, thereby contributing to their overall success.

## ACADEMIA



2009-2014

### Ph.D. in Computer Science

**New Mexico State University**  
Dissertation title was "Monitoring Scientific Applications in HPC Systems for Better Production Observability and Control."



2019-2022

### M.Sc. in Data Analytics

**Georgia Institute of Technology**  
Interdisciplinary program on analytics and data science. It covers statistics, operations research, computing, and business.  
Project: "FLFT: The Feature Level Forecasting Tool".



2007-2009

### M.Sc. in Computer Science

**New Mexico State University**  
My thesis was "Evaluation of Multi-Core Programming Paradigms".



1999-2003

### B.Sc. in Computer Engineering

**Razi University Kermanshah**

## EXPERIENCE

### intel. Lead Sr. Software Engineer/Architect

2021-2023

As a Software Engineer spearheading the development of cutting-edge software products, I've been instrumental in charting the course for innovative solutions that align with strategic objectives, utilizing cloud platforms like Azure and AWS as needed. My focus extends to long-term technology planning, where I provide insights into design, deployment strategies, and functionality for both IT teams and developers, ensuring a robust foundation for growth and adaptability.

In addition to my architectural responsibilities, I've led an exceptional outsourced software development team, fostering a culture of collaboration and open communication. This leadership style has proven pivotal in optimizing resource allocation, project timelines, and risk mitigation, resulting in the successful delivery of high-quality solutions. Moreover, I've overseen critical aspects of application functionality, including database management, data integrity, quality assurance, and export processes, all in alignment with our commitment to driving forward next-generation software technologies. My collaborative efforts extend to partnerships with various teams, ISVs, and ODMs, within both Azure and AWS ecosystems, further enhancing our product offerings.

#### Technical Expertise Highlights:

- Applying Agile development, ensuring independent software delivery.
- Excelling in cloud programming, particularly within the Azure environment.
- Leveraging expertise in programming languages and package management.
- Applying CI/CD methodologies and utilizing relevant tooling.
- Implementing Docker and Kubernetes for efficient scalability.
- Integrating security concepts and tools effectively into projects.
- Managing Linux, Git, GitHub, and executing CI/CD pipelines competently.
- Operating Azure and Kubernetes in high-stakes production environments.

## intel. Lead Sr. Software Engineer/Architect

2020-2021

In my role as a Lead Software Engineer, I have been instrumental in guiding the development of cutting-edge software solutions. I've focused on optimizing our products and providing valuable insights for strategic planning. Bridging the gap between technical complexity and market demands, I've collaborated with cross-functional teams to support sales and marketing efforts, creating compelling materials to drive customer engagement. I've consistently identified opportunities for customization to ensure our software meets evolving customer needs. Through proactive feedback loops between sales and product development, I've facilitated continuous improvement efforts. Additionally, I've simplified complex technical concepts through effective communication and the development of Proof of Concepts (POCs). Keeping a pulse on industry trends, I've contributed to product positioning and played a key role in training initiatives. From crafting value propositions to active participation in go-to-market strategies, I've demonstrated a holistic approach to software development and market success.

### Technical Expertise Highlights:

- Integrated tech with business goals for innovative solutions.
- Orchestrated team collaboration, aligning tech with sales and marketing.
- Implemented tailored customization for finely tuned software.
- Facilitated feedback loop between sales and product development.
- Created compelling sales collateral and simplified complex concepts.
- Stayed current with industry trends for cutting-edge offerings.
- Simplified engineering concepts through effective training methods.
- Developed captivating value propositions for successful market entry.

## intel. Senior Software Engineer

2012-2020

As a Senior Software Engineer, my primary focus was on ensuring the quality and reliability of our software through meticulous implementation and validation, drawing upon my experience. I showcased expertise in end-to-end system integration, playing a pivotal role in crafting cohesive and high-performing systems that met the highest standards. Proficient in backend and cloud development, I consistently delivered scalable solutions, meeting the dynamic demands of our diverse projects. Functioning as an effective technical leader, I actively fostered collaboration within the team, conducting thorough code reviews to uphold and enhance our coding standards. Through mentorship initiatives, I actively contributed to the growth of junior team members, emphasizing the paramount importance of continuous learning. In project management, I leveraged my adept problem-solving skills to estimate timelines accurately and proactively identify potential risks. The commitment to quality, technical leadership, and collaborative efforts played a pivotal role in ensuring the resounding success of our software projects.

### Technical Expertise Highlights:

- Ensured software quality and reliability through meticulous implementation and validation.
- Showcased proficiency in end-to-end system integration, contributing to high-performing systems.
- Demonstrated expertise in scalable backend and cloud development for dynamic project needs.
- Functioned as an effective technical leader, fostering collaboration and maintaining coding standards.
- Actively contributed to the growth of junior team members through mentorship initiatives.
- Leveraged adept problem-solving skills in project management, ensuring accurate timelines.
- Successfully managed projects with a commitment to quality, technical leadership, and collaboration.
- Enhanced collaborative coding workflows and automated continuous integration for streamlined development processes, using tools like Visual Studio Code, Git, TeamCity, and Jenkins.

## :mtg Software Engineer

2004-2007

As a Software Engineer specialized in IVR application development, my role was instrumental in crafting seamless and efficient telephony solutions for our primary customers, Bahrain and MTC. Having spent one year in the UAE and two years in Bahrain, I collaborated closely with cross-functional teams to gather and analyze requirements. Applying my expertise in scripting and coding, I developed and optimized call flow logic using VOS. Rigorous testing ensured the reliability of the applications. My commitment to user-centric Voice User Interface (VUI) design, guided by usability principles and feedback gathered. Overall, my contribution played a key role in the enhancement of our telephony systems for our customer from these prominent telecom providers.

## AI AI Enthusiast and Researcher

2015-Present

As a passionate AI researcher and practitioner, I've dedicated nearly seven years to exploring and experimenting in the field. Fueled by an insatiable appetite for learning, I continuously strive to deepen my knowledge and skills in artificial intelligence. With a master's degree in data analytics/AI, my academic background forms a robust foundation for my endeavors. To further fuel my passion, I undertake personal projects, conduct research, and engage in hands-on experimentation with AI technologies. Recently, I've harnessed the power of LangChain to leverage Language Model (LLM) capabilities in solving problems and introducing innovative solutions. Committed to sharing my experiences and insights, I've initiated an informative blog that provides a glimpse into my journey and discoveries.

### Technical Expertise Highlights:

- Conduct cutting-edge AI research, staying current with developments and exploring LangChain's applications, particularly in Language Model (LLM) technology.
- Perform data analysis using LangChain, extracting valuable insights to enhance AI models.
- Stay curious and committed to continuous learning, incorporating new AI advancements, including Language Model (LLM) capabilities, with a recent focus on LangChain.
- Proficiently handle and preprocess extensive datasets for AI model training, optimizing processes with LangChain.

### AI and LLM Projects:

**Streamlining Performance Benchmark Extraction from Websites and YouTube.** I led a project to summarize performance benchmarks from websites and YouTube, involving capturing, extraction using Lava LLM, and data saving in various formats such as Excel and CSV.








**Azure AI Delivery Recognition & Interaction.** In this project, we developed an app using Azure AI Vision to recognize Amazon deliveries and greet the delivery person with gratitude for their service. Moreover, the application integrated Azure OpenAI GPT LLM for engaging in brief conversational interactions.

### ML for Data Analytics Project:





The **Feature Level Forecasting Tool (FLFT)** is a project that uses machine learning to forecast Average Selling Price (ASP), with rigorous data analysis showing high accuracy (0.92 coefficient of determination). 12 selected algorithms effectively predict 92% of the data. FLFT offers a user-friendly Jupyter Notebook interface for efficient financial forecasting, benefiting the financial team.

## AREA OF EXPERTISE


### SOFTWARE ENGINEERING

-  **Software Development Life Cycle**  
UML, requirement elicitation, scenario and use case design, reverse engineering -- IBM Rational Team Concert.
-  **Unit Testing**  
JUnit, Karma, Mocha, Chai.
-  **Dynamic Analysis**  
Dynist (C/C++), ASM (Java), ASMDex (Android).
-  **Middle Tier Development**  
Java Enterprise Bean, JavaSocket, Message brokers (MQTT, RabbitMQ).
-  **Backend Development**  
Database design (schema and schemaless), MySQL, Oracle, SQLServer, MongoDB, Cassandra.
-  **Progressive Web Development**  
Angular, JQuery, JavaScript, TypeScript -- Bootstrap, Sass, Less -- Node.js, PHP, JSP, Java Servlet -- WordPress.
-  **Mobile Programming**  
Ionic (hybrid mobile app development), Android.


### DATA ANALYTICS AND AI


-  **ETL and Data Wrangling**  
Numpy, Pandas, csvkit, OpenRefine, RapidMiner.
-  **Data Visualization**  
Matplotlib, D3.js (Data-Driven Documents), Chartist.js, Chart.js, Tableau, Gephi.
-  **Machine Learning**  
Regression, classification, clustering, dimensionality reduction, ensemble methods, reinforcement learning, natural language processing, word embeddings, modeling --- Scikit learn.
-  **Deep Learning**  
Convolution neural networks for image recognition -- - Keras, Tensorflow, Pytorch, OpenVino.
-  **Large Language Models**  
Prompt Engineering, Sentiment Analysis, Text Summarization, Dialogue Systems, Contextual Reasoning, Text Classification, text to image model --- OpenAi API.

## BIG DATA, CLOUD, AND HPC

 **Big Data**  
Hadoop, Spark, Storm, Cassandra, MongoDB, and tools from data analytics.


 **Cloud Infrastructure**  
Design the architecture of the infrastructure to optimum the performance of VMs/containers and provides high availability and reliability.

 **High Performance Computing (HPC)**  
Message Passing Interface (MPI), OpenMP, pThread, Java Threads, Java RMI, Java Messaging, Pipelining.


 **Orchestration, Containerization/Virtualization**  
Docker - OpenStack, CloudStack, VMware ESXi - Docker Swarm, Kubernetes -- Vagrant, KVM, Oracle virtual machine.

## DEVOPS, AUTOMATION, CICD


 **Continuous Integration and Development**  
TeamCity, Jenkins, GitLab.


 **Automation**  
Yomen, Gulp, Grunt, Uglify, HtmlHint, CSSLint.

## DISTRIBUTED SOFTWARE DESIGN


 **Message Brokers**  
Apache Kafka, RabbitMQ, ActiveMQ


 **Microservices Frameworks:**  
Java, Node.js, .NET Core


 **Load Balancers**  
Nginx, HAProxy, Azure Load Balancer, AWS LB


 **Service Discovery and Coordination**  
Consul, etcd, AWS Cloud Map, Azure Service Fabric, Zookeeper


 **Configuration Management**  
Ansible

 **Monitoring Tools**  
New Relic, DataDog


 **Containerization and Orchestration**  
Docker, Kubernetes

 **API Gateways**  
Neflix Zuul, Kong, Azure and AWS gateways

 **Distributed Databases**  
MongoDB, Cassandra, Redis (Caching)

 **API Documentation Tools**  
Swagger, OpenAPI

 **Security Frameworks**  
OAuth 2.0, JWT (JSON Web Tokens), mTLS

 **Log Systems**  
ELK Elastic Search - Logstash - Kabana

## PATENTS



- A Flexible, Modular Hardware Edge System for the Internet of Things (Alma Peak jumbo patent)
- For Academic publications and blog postings please refer to my website @ [www.hsharifi.us](http://www.hsharifi.us)

## CERTIFICATIONS

 Java Certified Programmer  
 Java Certified Web Component Developer  
 **JAVA** Java Certified Business Component Developer

 Docker Certified Associate  
 TOGAF Enterprise Architect (WIP)  
 Multiple Data Science Courses  
Coursera, Edx, DataCamp, IBM online.