

## Aman Verma

### Technical Lead

**Lead Software Engineer:** Pioneering Challenging Projects, Mastering Diverse High-Performing Teams, and Unleashing Innovation in Software Engineering, System Design and Data Engineering

**IIT Graduate (B.Tech. IIT Ropar)**

**10+ years of experience**

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#### PROFILE HIGHLIGHTS

- **PROVIDE TECHNICAL LEADERSHIP & MANAGE IT ON A DAILY BASIS** - Accomplished leader in software development, adept at guiding teams to deliver high-quality products within budget, balancing technical requirements with business objectives; expertly mentors developers, and play a pivotal role in talent acquisition for organizational growth.
- **TECHNICAL ARCHITECTURE** – Experienced in designing and implementing scalable, robust Big Data architectures for efficient processing and storage of vast data volumes, optimizing data pipelines for performance, reliability, and maintainability; demonstrated expertise in architecting scalable, robust, and maintainable software systems, making critical decisions to optimize performance, security, and user experience.
- **PROJECT MANAGEMENT** - Proven ability to manage complex software projects from inception to completion, ensuring successful delivery by overseeing project scope, timelines, resource allocation, and risk mitigation.
- **HANDS-ON-ENGINEER –**
  - **Technical Expertise** - Deep understanding of software development technologies, frameworks, and best practices, facilitating seamless integration and efficient problem-solving throughout the software development life cycle.
  - **Hands-on coding, design, and implementation** experience in solving distributed computing challenges, defining technical requirements, and exploring new big-data technologies. Language skills include – Java, Python & Scala.
  - **Scalable Data Solutions** - Designing data solutions that can handle increasing data volumes and maintain high availability during peak loads or system failures.
  - **Evaluating and selecting appropriate data storage solutions** (data lakes, data warehouses, NoSQL databases) based on project requirements and business needs.
  - **Cloud Proficiency:**
    - Proficient in Cloud technology platforms like AWS – Redshift, Lambda, Glue, etc.
    - Openness to work on other cloud platforms such as Snowflake, Azure & GCP.
  - **Data Processing & Analysis:**
    - Overseeing the development and deployment of data processing and analysis tools and frameworks.
    - Ensuring effective data ingestion, cleaning, transformation, and analysis to generate meaningful insights.
  - **Data Security & Governance** - Implementing data security measures and adhering to data governance policies to ensure data confidentiality, integrity, and availability.
  - **Complying with relevant data privacy regulations and best practices.**
  - **Performance Optimization –**
    - Identifying and addressing performance bottlenecks in data pipelines and storage systems.
    - Conducting performance tuning and optimization for faster data processing and reduced latency.

- **Continuous Learning** - Staying up to date with the latest technology trends to ensure the greatest ROI.
- **Documentation** - Maintaining comprehensive documentation for all data processes, architectures, and solutions. Ensuring accessible knowledge sharing within the team.
- **AGILE METHODOLOGIES** - Proficient in implementing Agile and Scrum practices to improve team efficiency, increase productivity, and deliver incremental software releases that align with business priorities.
- **CI/CD** - Proficient in setting up CI/CD pipelines, automating testing, and streamlining the deployment process, resulting in faster development cycles and increased software reliability.
- **CROSS-FUNCTIONAL COLLABORATION** - Effective at collaborating with product management, UX/UI designers, and other stakeholders to translate business requirements into technical solutions that meet customer needs and drive product success.
- **PROBLEM SOLVING & TROUBLESHOOTING** - Known for analytical and innovative problem-solving skills, resolving complex technical issues, and implementing solutions that enhance software quality and performance.
- **TECHNOLOGY INNOVATION** - Stay up to date with the latest trends and emerging technologies in the software engineering industry. Actively involved in proposing and implementing innovative solutions to improve processes and drive continuous improvement.
- **COMMUNICATION & PRESENTATION** - Strong communication skills, both verbal and written, with the ability to present complex technical concepts to non-technical stakeholders and executives in a clear and concise manner.
- **CUSTOMER-FOCUSED APPROACH & ALIGN WITH COMPANY'S KEY CLIENT INITIATIVES** - Customer-centric mindset, interfacing with leading companies' customers daily to comprehend strategic requirements, regularly connecting with VP & Director level clients, and traveling to client locations, adept at translating business requirements into technology solutions that prioritize user needs, exceptional user experience, and deliver added value to both end-users and the business.

## QUALIFICATIONS & SKILLSET

- **EDUCATIONAL QUALIFICATION** - B.TECH. with CGPA (Upper-Division): **8.16/10**, **Indian Institute of Technology, Ropar (IIT ROPAR)**
- **PROFESSIONAL EXPERIENCE** - **10+ years of track record** of working on diverse technical stacks in different domains of the IT industry - Maps and Open Location Platforms (PaaS), BFSI, and Fintech. platform, IT Healthcare platform, and NDT Technology Platform.
- **KEY SKILLS**
  - Programming skills in Core Java, Java-8, J2EE, Python, Scala
  - Big Data Tools - Apache SPARK, KAFKA, SCALA, SPLUNK
  - Microservices Architecture
  - Data Structures, Algorithms, and Software Design Patterns based on Object Oriented Programming and SOLID Design Principles.
  - Frameworks/ Technologies: J2EE, Spring
  - CI/CD, Docker, Kubernetes, and Gitlab
  - AWS Cloud Computing Platform - Building Scalable & High Availability (HA) System Design using AWS Platform - Amazon EC2, Stream Processing, AWS Lambda, Amazon S3, etc.

## PROJECT & ORGANISATIONAL EXPERIENCE

Sigmoid, Bengaluru

Aug'22-present

**Designation: TECHNICAL LEAD**

### Role & Responsibilities

- Design, develop and evolve highly scalable and fault-tolerant distributed components using Big data technologies.
- Provide technical leadership and manage it on day to day basis. Guiding developers in day to day design and coding tasks.
- Define technical requirements, data extraction, data transformation, automation and exploring new big data technologies.
- Interfacing with clients at Fortune-500 companies to understand strategic requirements and tie them to technology solutions.
- Wear multiple hats to deliver in three aspects - Client Management, Product Management and Team management as well as an hands-on coder and individual contributor.
- Development infrastructure - build, testing, continuous integration and delivery.
- Involve in planning and demo on regular basis and communicate effectively about decisions, direction and progress both inside and outside team.
- **SKILLSET-**
  - **BIG DATA SKILLS - APACHE SPARK, KAFKA AND SPLUNK**
  - **CI/CD, DOCKER, KUBERNETES**
  - **AWS CLOUD COMPUTING PLATFORM, REDSHIFT, GLUE**
  - **LANGUAGES – JAVA & PYTHON**
  - **GITLAB, AWS, JAVA, AWS, DOCKER, KUBERNETES.**

HERE Technologies, Mumbai

June'21-Aug'22

**Designation: LEAD SOFTWARE ENGINEER**

### Responsibilities

- DEVELOPMENT OF HERE Open Location Platform and catering to navigation requirements of multiple clients in Europe - BMW, Audi and Bosch.
- Solely responsible for 9 Source Seeding Adapters to capture data from maps and catalogs and features processing from the data across formats for product development across multiple down streams.
- Develop highly scalable and reliable backend services and Contribute ideas for new features and identify areas of improvement for HERE OLP PaaS Platform.
- Development infrastructure - build, testing, continuous integration and delivery.
- Involved in planning and demo on regular basis and communicate effectively about decisions, direction and progress both inside and outside team.
- **SKILLSET-**
  - **BIG DATA SKILLS - APACHE SPARK, KAFKA AND SPLUNK**
  - **CI/CD, DOCKER, KUBERNETES**
  - **AWS CLOUD COMPUTING PLATFORM**
  - **LANGUAGES - JAVA, SCALA AND PYTHON**
  - **GITLAB, AWS, JAVA, SCALA, AWS, DOCKER, KUBERNETES and ASYNCHRONOUS PROGRAMMING.**

Synechron Technologies Pvt. Ltd., Mumbai

Feb'20 to June'21

**Client: Morgan Stanley (FEB 2020 - JUNE 2021)**

**Designation: Senior Associate - Technology**

## Responsibilities

- Worked in development of Modern Equity Trade Correction Platform.
- Development for GTM and Manager Approval Bot, development and maintenance as well as release commercial quality of code for same.
- Tools used include Team city, Apache Camel, Java-8, etc.

**Akshay Pharmaceuticals (E-Pharmacy Startup), India**

**December'17 to Jan'20**

**Designation: Software Development Engineer**

## Project Details:

- Created an E Voucher Distribution System using and SPRING BOOT, JBOSS and MySQL
- Preparation of Failure Lead report to Sales force to push it into the system.
- Capable of routing, connectivity and consumption of REST APIs
- Vertically scalable database for products, employees, and client's creation using JAVA HIBERNATE, JDBC and SQL
- DATA VISUALIZATION to understand and track Key Performance Indicators using TABLEAU.

**Edifecs Inc., India**

**Jul'13 to Apr'16**

**Designation: Software Development Engineer**

## Responsibilities:

- Designed and developed software and maintained and supported released and pre-release commercial applications.
- Utilized test-driven development approach to deliver commercial quality code.
- Performed code and design reviews for US Healthcare IT industry.

**Product:** Edifecs Test Data Management

**Description:** Edifecs Test Data Management is a complete compliance solution for payer and providers and successfully provides transition of US Healthcare from ICD-9 to ICD-10. Provides impacts analysis for risk-based assessments. Build completely over Grails Framework.

## Responsibilities:

- Involved in software design and development of Edifecs test data management as per business requirements conforming to the standard coding practices.
- Worked with several EDI Formats (X12, UHG, and Vektis) - Development of Business Forms
- Worked on volume data generation and batch framework for upload and download of high-volume data.
- Worked on design and development of UI and Service layers to deliver the commercial quality code as per the business requirements.

**Environment:** Core Java, Spring Framework, Multithreading, Data Structure, RESTful, MS SQL Server, Web Services, XML, Elastic search.

**Lucid Software Ltd., India**

**Jul'12 to Jul'13**

**Designation: Research and Development Engineer (Data Scientist)**

## Responsibilities:

- Engaged in software development and research for Non-Destructive Technology (NDT)
- Responsible for analysis of different forms of data - Ultrasonic Scan Data, X-ray, MRI, and solving real-engineering problems.
- Worked on Image Processing, Feature Tracking, 3D Modeling, and Visualization to meet the client needs.

**Project 1: Monte Carlo Recursive Ray Tracing Technique for Ultrasonic NDT**

**Mar'13 to Jul'13**

**Client: Fraunhofer Institute IZFP, Germany**

**Role: Data Scientist**

**Description:** Optimizations of number of rays, beam angle and skew for scan plan generation, using Monte Carlo Algorithms in Ray Tracing to model Ultrasound Defect interaction that provides a good balance between accuracy

and proper modeling (rendering) time. The concepts of Packet Tracing Algorithms, Accelerated Data Structures and Geometric Theory of Diffraction were implemented. Complete code structure is written in C++ using VTK and Bullet and is then integrated with C#.NET based UI.

Partners: Lucid Software India, Fraunhofer Institute IZFP Germany, IDEAL Technologies Germany, and IIT Kanpur

**Project 2: Noise Removal in High Frequency A-Scan Data** **Mar'13 to Jun'13**

**Client: Electric Power Research Institute (EPRI), USA**

**Role: Data Scientist**

**Description:** Developed Spline Interpolation and Smoothing Algorithms using Mean Square Criteria along with testing with several interpolation functions using SciPy in Python. It was implemented in C++ using C-Fitpack libraries based on pre-defined knot points.

**Project 3: Feature Tracking Interface for Ultrasonic Acoustic Mouse** **Nov'12 to Feb'13**

**Client: EPRI, USA**

**Role: Data Scientist**

**Description:** Developed an interface for Position and Feature Tracking based on Ultrasonic scans of a 3D solid block. Defects inside the block were detected as features and each scan containing those features was stored as cloud. A cloud-based image registration technique was implemented based on Iterative Closest Point Search (ICP) Algorithms with the help of Point Cloud Library (PCL) and k-d tree implementation. This interface was tested with Linear, 2D, 3D tracking in offline as well as in real time domain. This application takes Ultrasonic Scans as input in VTK format & writes VTK output after registration based on fitness and ICP. Boost test cases were written for testing of this code. Wrote a Python Script for generating random 3D clouds depicting various probe movements for testing in offline mode. This Cloud-based Feature Tracking Interface for Acoustic Mouse (Ultrasonic) is patented by Lucid Software.

Partners: Electric Power Research Institute (EPRI) Unites States and Lucid Software India

**Project 4: Multiple Nozzle Transformation System for iMAV** **Oct'12 to Nov'12**

**Client: Areva, Germany**

**Role: Data Scientist**

**Description:** intelligent Modeling and Visualization (iMAV) tool simulates the actual UT scanning on a 3D model. The user can control parameters such as probe angles and skews and simulate various inspection scenarios to build an optimum scan plan. A GUI application was developed to implement Multiple Nozzle Transformations specifying probe movement over such system. The UI was prepared in C#.NET and the complete code was written in C++ using Visualization Tool Kit (VTK) Libraries. Appropriate wrapper classes were written to access native code from managed C# application. This application code was unit tested by writing appropriate test cases.

**Project 5: Multiple Nozzle Transformation System for iMav** **Aug'12 to Sep'12**

**Client: Areva, Germany**

**Role: Data Scientist**

**Description:** Developed DSP filters in C# on several A-scan data. Filters include Bandpass Butterworth, Bandpass Frequency, Gain Filter, Static Muting (Time Cut Filter), Complex Trace analysis, Trace Spectrum, Spectral Whitening, and FK (Frequency Wavenumber) Filter.

**Defence Research & Development Organization (DRDO, LRDE), Bengaluru** **Apr'11 to Jul'11**

**Designation: Research Scientist (Intern), Electronics and Radar Development Establishment**

**Responsibilities: Internship**

- Involved in software development and testing for S-Band Radar

**Project 1: Radio Frequency (RF) Project on "R&D of T/R Chain Module" for S Band Radar**

**Description:** Design, simulation, and optimization of layouts for T/R (Transmit/Receive) chain over ADS, fabrication and testing of component level amplifiers. T/R Module was designed to achieve a Gain of 50 dB and boosted the output power of the transmitted signal up to 100 mw with a noise figure of 4.5 dB for receive chain. A Beam Steering control in the radiation pattern was also established.

**B.Tech. Project, Indian Institute of Technology (IIT), Ropar**

**Aug'11 - April'12**

Project: "Nano Strain Sensor using Phase Shifted Fiber Bragg Gratings" under Dr. Kalaga Venu Madhav (Assistant Prof. IIT Ropar)

Strain and temperature discrimination using Fiber Bragg Gratings in a crosswire configuration.

**Patent number: 9267854**

<http://patents.justia.com/patent/9267854>

**Description :** The project involved MATLAB coding based on Coupled Mode Theory (CMT) for Optical Fiber Grating & Transfer Matrix Method (TMM) for Tun-able Laser Source (TLS) and a Broad Band Source. The use of Phase Shifted Fiber Bragg Gratings explores the measurement range at Nano level. Two identical  $\pi$ -FBGs are used in matched-filter configuration to compare the reflection spectrums of the sensor FBG to the transmission spectrum of the reference FBG. The results were published and subsequently a patent was filed.

#### MYSELF & HOBBIES

- A self-motivated, diligent and a confident individual having an insatiable zest for knowledge and can easily learn from the environment and apply it quickly in life.
- Possess extremely excellent communication and interpersonal skills and believe in short-term deliveries.
- Personal attributes include leadership and sound judgment qualities as well as creativity, analytical and troubleshooting skills and can interact productively with people from diverse backgrounds. I don't hesitate to go an extra mile to learn new tech/business processes on spot and resolve/complete issue/assignment.
- A Voracious reader of new tech blogs across platforms. I like traveling and exploring new places and especially keen on archaeological heritage and wildlife. Photography, Biking, Trekking and Cooking and Meditation are other hobbies that I pursue.

#### AWARDS & RECOGNITIONS

- **Above & Beyond Award 2022-23, Sigmoid Inc**
- **Value Champion Award 2015-16, Edifecs Inc.-** for being the best employee across all the products and teams over the year.
- **Best Boy Award-** for showing excellent all-round performance in school at +2 level.
- **Won First Prize** in all examinations at school level- both +1 &+2 at Lucknow Public School, India.

#### REFERENCES

To be furnished over request