TUSHAR VASANT PANCHAL

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Snapshot of Skills and Key Achievements:

- Have almost 20+ years of considerable exposure to all stages of SDLC, Agile software development, Tech planning, Automated testing, Observability, Devops integration etc.
- Considerable Experience in extensive Python component, java spring boot microservices development, deployment to AWS, maintaining C# .NET legacy apps etc.
- Extensive experience with AWS technologies, including AWS Lambda (Python), S3, EC2, CloudFormation, Opensearch, DynamoDB, AuroraDB, and IAM roles AND cost optimization.
- Led the successful design, development, and deployment of advanced Gen AI technologies (LLMs) i.e Anthropic's Claude using AWS Bedrock, Machine Learning Model Cohere rerank via AWS SageMaker, Azure Chat GPT API, OpenAI GPT Cohere rerank api etc. significantly enhancing the organization's NLP capabilities.
- Successfully integrated AWS Translation APIs enabling robust localization capabilities.
- Experience in software development best practices and coding standards i.e. software reuse, refactoring, continuous integration, test automation, secure development, TDD, static code analysis, peer/code review.
- Considerable experience in mentoring junior engineers to maximize productivity.

Languages/Software:

LANGUAGES	Python, Java spring-boot, SQL, no SQL, .Net C#, ASP.NET
AWS Essentials	AWS Lambda, S3, SES, SNS, SQS, EC2, Cloudformation, IAM roles, Docker, Kubernetes, ECS
AI Essentials	LLMs, Anthropic Claude Haiku, Sonnet, Amazon Bedrock, Knowledgebase, Machine Learning models, Cohere rerank, AWS SageMaker, Azure GPT, OpenAI GPT, Machine Learning, langchain, langgraph, langsmith, prompt mgmt, Foundation Models, RAG, ML training, Fine tuning, amazon translate
Web Essentials	JSON, XML, XSLT, HTML, JavaScript, Node JS, ASP.NET, REST API, OpenApi
Databases	AuroraDB, MongoDB, opensearch, Redis, Dynamodb, SQL SERVER
profile/projects	Linked-in profile, github lab, **meet my AI Assistant**
Certification	AWS AI Practitioner AIF-C01, AI Early Adopter, Microsoft Certified Technology Specialist (MCTS), Preparing AWS Cloud Practitioner

Education:

Rollwala Computer Center, India	Masters in Computer Application (Dec. 1999)
Gujarat University, Ahmadabad, India	Bachelor of Science, Major in Electronics (July 1996)

Professional Experience:

EBSCO Information Service, Ipswitch, MA, USA

Senior Software Engineer   **(July 2012 to Sept 2024)**

EBSCO Information Services (EIS) provides a comprehensive research platform that combines e-journals, e-books, and research databases with a powerful discovery service to enhance the research experience of its users. Over my extensive tenure at EIS, I gained experience across all stages of software development, DevOps integration, and technology stack migrations, including the transition from .NET to Java to AWS Cloud. I have worked with industry-standard practices for observability, traceability, cloud services, and participated in the organization's adoption of SAFe (Scaled Agile Framework) and AI-driven initiatives. Some key projects I contributed to include:

NLP and Search Re-ranking: As a part of the AI team I successfully designed, developed, and deployed a GenAI Java spring boot suits of applications leveraging LLMs Anthropic's Claude using AWS Bedrock, RAG development using Bedrock knowledgebase and Cohere re-rank models through AWS SageMaker. I also developed serverless lambda using extensive python scripts making use of langchain and boto3 libraries to call the bedrock endpoint and automated tests for it. This project significantly enhanced the company's natural language processing and re-ranking capabilities.

Content Summarization through AI: I led the development of extensive Python code development for serverless lambda and also helped build a java spring boot service calling lambda that generates AI-driven summaries for HTML and PDF full-text documents, helping users make more informed decisions when selecting articles. We utilized Azure GPT GenAi models, GenAI AWS Bedrock's Claude Sonnet and Haiku models to develop this feature. Additionally, I integrated AWS Translation and Translation Document API, enabling localization capabilities across the platform.

Find My Organization (FMO): I led the backend data migration, utilizing DynamoDB Stream integration with serverless Lambda using extensive python code and SNS/SQS integration. I also contributed to the development and design of the suits of java spring-boot FMO applications, which allows users to search for their institutions and access preferred authentication settings.

Email Service: I was involved in the design and maintenance of suits of java spring-boot email composing and delivery applications using AWS SES, SNS, making key improvements such as asynchronous email endpoints with SQS integration, managing email suppression lists. These efforts added end-user search alert, email quota maintenance capabilities for the company.

Discovery services Api and Integration toolkits: These are the ASP.NET C# applications providing XML and SOAP web services for external legacy clients utilizing EBSCO's proprietary discovery search services. I also led the application for transaction logging to amazon opensearch, providing the tech teams capability to analyze the transaction thru aws opensearch. I was fully responsible for maintaining and bug fixing the application.

Beyond these specific applications, I have played an integral role in projects ranging from authentication services, oauth, saml, oidc application to migrating C# .NET applications to a Java microservices architecture. I also led the migration of on-premise services to AWS, worked on AWS architectures for legacy applications.

Agero Inc., Medford, MA, USA

Principal Software Engineer   **(Mar 2006 to June 2012)**

At Agero Inc. (formerly Cross-country Automotive Services), a leading provider of vehicle roadside assistance in North America and Canada, I began as a temporary contract employee and later advanced to Principal Software Engineer. I played a key role in leading various development efforts in the IT Enabling Services Technology Group, where I successfully architected, designed, and implemented several projects.

Key projects include:

- **3rd Party Integration Projects:** Led the design and development of an enterprise-wide XML Gateway solution to facilitate seamless communication with 3rd party providers for services such as GPS, SMS, and email.
- **CRM Data-Only POP:** Designed and developed a feature for call center CRM applications, enabling agents to schedule pop activities. Implemented this using MSMQ 4.0 and WCF services.
- **Provider Selection Optimization:** Developed an Oracle-based system to optimize the selection of roadside service providers based on their performance and cost-effectiveness.
- **Tow to You and Dealership Network Projects:** Spearheaded design changes for OEM dealership network campaigns, incorporating new dealer selection logic and customer incentive schemes.

I took the lead in coordinating with various teams (QA, system groups, and offshore teams), designed monitoring tools, and actively participated in business and technical meetings.

Artech Information Systems, USA and India

Sr. Software Engineer   **(August – 2003 to Jan - 2006)**

At Artech Information Systems, a leading IT consulting and outsourcing company, I worked as a Software Engineer assigned as a consultant to IBM Global Services India Ltd. I supported U.S.-based clients like Merrill Lynch and Sprint PCS, providing maintenance, 24/7 support, bug fixes, and enhancements in alignment with CMM Level 5 standards.

Key projects include:

- **Asset Disposition (MRF) Site:** Managed material disposition processes, authorization, and alert systems.
- **International Roaming (QCS):** Supported international roaming order activations.
- **Inventory Sign Off (ISOA):** Facilitated financial reporting and account sign offs for Oracle GL balances.

In addition to leading enhancement efforts, I coordinated with onshore teams, led impact analyses for the Sprint Nextel merger, and implemented PGP encryption for secure communications. As a senior team member, I provided technical guidance on .NET technologies and trained junior engineers

Cox and Kings Pvt Ltd, India.

Sr. Software Programmer **(Dec–2001 to August-2003)**

At Cox and Kings India Ltd, a leading provider of travel and tourism services, I was the first Software Programmer in their newly established Systems Group. My primary responsibility was to design, develop, and implement a B2B intranet system and computerized leisure operations across multiple offices.

Key projects include:

- **Cox and Kings Intranet:** Developed a system to streamline inbound and outbound travel operations, centralizing sales, bookings, and accounting for C&K offices and partners.
- **Leisure System:** Automated the company's pre- and post-season leisure operations, serving as an admin tool for the intranet.

I played a key role in system analysis, database design, and infrastructure setup, while overseeing development and testing teams. Additionally, I led critical coding efforts and delivered business presentations and user training on the new systems.

WF InfoTech Pvt. Ltd., India.

Sr. Web Programmer **(May–2000 to Dec-2001)**

At WF Infotech Pvt Ltd, a startup focused on building internet-enabled websites for UVI Holidays Pvt. Ltd., I was among the first programmers. My primary responsibility was designing and developing the company's flagship website, which catered to both B2B and B2C markets, specifically targeting tour operators and travel agents selling holidays to India.

Key contributions include:

- Conducted analysis, design, and development of the website using ColdFusion.
- Designed and developed the database and handled both functional and database-driven aspects of the site.
- Managed remote web server administration and coordinated with the team.