

Shailesh Nair

Interested and keen to design and develop innovative solutions for problems in business using my technical, managerial and analytical skills.



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[in www.linkedin.com/in/shaileshbnair](https://www.linkedin.com/in/shaileshbnair)

sbnair.github.io/distributed_systems/, <https://sbnaircrypto.netlify.app/>, <https://sbnair.github.io/fullstackDev/>

Work experience

Software Consultant (Blockchain + Application Architect) 2022-01

Freelance

1. Working Extensively with US and European Clients in both Centralized and Decentralized applications.
2. Developed NFT Minting and Tokenomics for different Companies to launch in NFT based Crypto Market Place.
3. Developing Customized Blockchain Frameworks from Scratch based on different white papers specified by clients using Substrate, Polkadot, GoEthereum, Cosmos, Different type of EVMs, GoQuorum, Ripple, Cardano, Hedera (Consensus as a Service), etc.
4. Involved in Developing different light weight clients (Bridges) for DeFi apps and also involved in development of Layer 0, Layer 1 and Layer 2 development using Zero Knowledge libraries, Merkle Proof Algos to make the transactions faster and secure.
5. Involved in Developing Different Microservices for Centralized applications using Event Sourcing Architecture, Domain Driven Design Principles, Event Store, CQRS and different consensus mechanisms.
6. Working in Languages like C#, C++, Java, Kotlin, Golang, Rust, iOS (Objective C), ROR, ReactJS, Vue3.js, etc.
7. Constantly updating my skills according to requirements.
8. Worked on Ocaml, LIGO Smart contracts to develop inner layer of Deku Side chain in Tezos, also integrated State machines of Tendermint BFT Core consensus into Tezos side chain.
9. Worked in curating data by managing state machines and intermediate data (Before reaching Consensus) which is in the internal layer of blockchain.
10. Worked extensively in Solana, COSMWASM (Terrachain) frameworks to build smart contracts like Airdrop, Reward Mechanism, Defi functionalities and also integrating zero knowledge proofs.
11. Worked on Tezos and Mina Protocol recently to develop Zeroknowledge contracts and low level protocols.

Senior Engineering Manager (Blockchain + Application Architect) 2014-06 - 2021-12

Grindan IT Consulting Services Pvt Ltd

1. Provided Technology Consulting for Swedish, Norwegian, German and US Clients.
2. Designed and Developed DeFi apps from scratch using Solidity, Golang, Rust programming languages.

Total Experience

Software Development (Hands on) : 20+ Years.

Software Management : 7 Years.

Blockchain Development : 8+ Years

Gaming Development: 6+ Years

Design Patterns : 10 Years.

Data Science and Analysis : 6+ Years

Ecommerce Development: 7+ Years.

Mathematical Models : 1 year

Deep Learning : 2 Years

Capital Market Analysis : 2+ Years

Managed Team Size : 4 to 50 team members.

Two Pizza Team : Worked in a group with a Two Pizza Concept.

Solo Developer : Worked as solo developer when needed.

Github Profile : <https://github.com/sbnair>

Portfolio

Functional Programming Skills



Ocaml, Ligo, Michelson Smart contracts, Haskell

OCAML - OcamlNet Library (Parallelism)

LWT - Concurrency Library

LUV - Event Loop System

Tezos Blockchain

Deku Side chain

Gaming Skills



3. Developed Yield Aggregation apps using Solidity, Layer 2 frameworks, EVMs, EVMOne, etc.
4. Worked in developing Wallets using BitGo and other standards.
5. Worked Extensively in different Light clients or Blockchain Bridges (Custodial, SPV, Trustless) across different blockchain frameworks like Substrate, Solana, Cosmos and different EVMs.
6. Worked in Merkle Tree Proof using Rust and Wasm frameworks.
7. Worked extensively in libP2P protocols, zk-Snark, bellman Substrates, Schnorkell/Ristetto Multi Signature Schemes required for different DeFi apps.
8. Worked in developing Domain Driven Design Architectures, Event Sourcing, CQRS architectures in Golang and other microservices.
9. Used Kafka, RabbitMQ, NATS as Event Bus to communicate between different microservices deployed in AWS EC2 instances, Databases used were Postgres (Write-Ahead-Log and Trigger/ Notify features) were used extensively.
10. Used KrakenD for API Gateway, Athens (for managing Proxies), Caching layers (Freecache, gocache), gotkit, fasthttp for developing customized microservice layer protocols (gRPC), AWS Athena tables to create scripts using AWS S3 and communicate with Blockchain frameworks.
11. Used AWS AutoScaling group and Load Balancers, TerraForm to manage deployment with multiple Cloud Providers, etc.
12. Extensively used AWS Elastic Caches, Lambda Functions, RDS including S3 to manage different types of data needed for different microservices.
13. Developed CEX (Centralized Exchanges) and DEX (Decentralized Exchanges) using Golang, Solana, Substrate and managed by Portainer, Kubernetes, Gitlab, Docker Swarm and also using Docker Compose.
14. Developed Cross chain SPV and Custodian bridges using Rust and Golang to communicate between different chains.
15. Worked in GoEthereum and Cosmos along with other Blockchain frameworks like Polkadot, Solana, CasperLabs.
16. Designed and Developed Low Frequency and Medium Frequency Trading Apps for Norwegian Hedge Funds/Proprietary Trading Firms in C#, C++, Apache Kafka.
17. Designed and Developed ETF Analysis Apps using C#, Power BI, MultiCharts and IQFeed API.
18. Designed and Developed Markowitz Portfolio Optimization by assigning random weights to portfolios.
19. Applied Leaky RELU Activation Function in Deep Learning to update weights of different portfolios in Forward and Backward Propagation.
20. Designed load balancing server which can be distributed and can be accessed by different client systems including Windows, Mac OSX, iOS, Android and Ubuntu.
21. Designed framework to implement ESB (Enterprise Service Bus) Architecture which communicates or passes messages to different clients.
22. Involved in development Node.js, ReactJs (Redux and Saga), Vue.js and iOS client development using Objective C, Swift frameworks using Apple Push Notification Services (Customized).
23. Recruited candidates were trained by myself in the frameworks that i developed and was able to place them in developing apps on top of frameworks which i designed and developed from scratch.
24. Responsible for designing software frameworks of different products, identifying benchmarks for recruiting candidates based on technical skills required for development, communicating with stake holders for identifying requirements, involved in organizing the team.

NFT Gaming - Unity 3D, Unreal Game Engine, C++, Solana, Substrate, Ethereum Blockchain Platforms.

Blenders and other Design tools were used to develop 3D assets.

Implemented Tokenomics for Gaming firms to move into Crypto Exchanges for launching different type of tokens.

Blockchain Skills

This website contains information of some of my Blockchain applications and the Defi apps i developed.

<https://sbnaircrypto.netlify.app/>

Worked in Following Blockchain Frameworks :

1. Cosmos (Stargate) - Golang
2. GoEthereum (Parity) - Golang
3. HyperLedger (Chaincode) - Golang
4. Go-Quorum - Golang
5. Solidity (Ethereum)
6. Substrate / Polkadot - Rust
7. Solana - Rust
8. Casper Node - Rust
9. Rain Framework - Rust
10. Cardano (Plutus, Marlowe - DSL) - Haskell
11. Tezos - Ocaml
12. TLA+ - Consensus Documentation
13. Consensus - Proof of Space, Proof of Archival Storage, Proof of Replication, POS, POW
14. Comswasm - Rust (Terrachain)

Rust Skills

Actix Microservices
 Rust ADT - Custom JSON Validator
 Substrate/Polkadot (Renewable Energy Peer to Peer Trading, NFTs, Advertisement Analytics) - Rust
 Solana (Streaming) - Rust
 SMOL ASYNC Runtime - Rust
 Tokio Runtime - Rust
 Merkle Proof - Rust, WASM
 Portainer - Container Management
 DEFI, Wallet Management done in Rust

Golang Skills

This website contains some of my project details :

25. Managing Outsourced teams and also involved in Digital Marketing.
26. Related to GUI techs now using ASP.NET MVC,WPF,Objective C,Html 5,Jquery,Php,SAP UI 5.
27. Involved in Developing applications using SAP UI library,Fiori UX guidance for Business components in SAP ECC modules.
28. Involved in designing and developing Continuous Integration Framework which performs automated tests and deployment to different customer locations.
29. Requirement Specification is done using Volere Specification Template.
30. Developed NFT Minting process to control access and timing of Assets (Documents, Gaming Assets, Pictures, Movies, Audio Clips).

Technical Manager/architect

2012-09 - 2014-05

NeST Technologies

1. Working in developing a SAAS based engineering and business application product for aviation industry.
2. Responsible for designing and developing Enterprise Grade software product from Scratch.
3. Involved and Responsible for System Architecture,Application Architecture,Business Architecture and Technology architecture.
3. Training Developers in advanced technologies and framework that i design and implement.
4. Communicating with business domain experts.
5. Responsible for supporting a team which includes freshers,senior developers,team leads,Quality assurance and Business Analysts.

Domains Worked

1. Aerospace (ERP,Flight Data Analysis,Business Intelligence) following FOQA guidelines.

Technologies Used

1. Architecting and developing projects in WPF,Silverlight,Prism 4.1,ASP.NET MVC 4,BigData,Sql Server using agile methodology (SCRUM).
2. Designed and implemented multi tenancy architecture in cloud(Azure) using hadoop stack.
3. Designed and Developed 3D Flight simulator animation using expression blend and other opensource tools in wpf .
4. Used Distributed Caching servers to balance load across all servers.
5. Machine learning algorithms is being used for fuel management using unstructured data.

Software Product Architect

2010-10 - 2012-08

5Y Technologies

1. Following Scrum(Agile software development) methodology for managing and developing multiple products and projects for a US based company named SchoolinSites.
2. I design frameworks to build enterprise oriented products using technologies like Silverlight 5,php,ASP.NET 4.0(Ajax),ASP.NET MVC 4 (query),WPF,Objective C,Html 5 and also involved in building business models by communicating with clients.
3. MEF,MVVM,Caliburn(Micro),Prism 4.1 are mainly used in developing web based products.
4. Also involved in developing apps based on OpenXml technology.
5. Have developed animations in IOS apps based on OpenGL technology.
6. Developed SaaS based web apps and also worked around with issues that come across with SaaS grid.

https://sbnair.github.io/distributed_systems/

Gokit - Microservices
 Go-routines, Go-channels
 Gin, Stargate IDE
 fasthttp framework
 KrakenD (API Gateway), Athens (GOPROXY)
 NATS Server and Streaming, Kafka (Sarama), go-rabbitmq
 testify, Ginko, Gomega - BDD and TDD
 Domain Driven Design, CQRS, Event Store.
 Jaeger, pgx, - Queries and Tracing
 ORY/HYDRA - Authentication and Authorization
 bigcache, freecache - Caching Layer

Haskell Skills

ADT
 Yesod Framework

SAAS

AZURE
 DOCKER SWARM, PORTAINER, Apache MESOS
 AWS LAMBDA Functions, MQS, RABBITMQ, APACHE KAFKA, NATS Messaging
 AWS RDS - (Postgres, SQL Server), AWS Elastic Cache - Redis
 Multitenant - TerraForm
 AWS VPC
 GOLANG, C#, Java - Microservices
 GraphQL - Hasura cloud
 AWS EKS (Kubernetes), CNI, INGRESS , EGRESS
 NGINX (ALB INGRES CONTROLLER)

DevExpress

Winform & WPF UI Controls
 Reporting and Analytics
 ASP.NET UI Components

Health Care

CSharp, .NET 5.0, Micro Framework
 HIPPA Complaint (ICD Products)
 SOAP NOTES
 OAuth 2.0, Active Directory Authentication

7. Telerik based tools has been used intensively in development.
8. SpreadsheetML, PresentationML, WordProcessingML, Drawing ML is used intensively.
9. RavenDB and MongoDB is used for logging and searching purposes.
10. Implemented multitenancy concept in in-house and commercial websites successfully.
11. Customizing objective c(iphone/ipad) controls according to clients needs.
12. Involved in designing and building BPM app.

Domains Worked :

1. Education Domain (Schools in US).

Technologies Used :

1. Silverlight 5, php, ASP.NET 4.0(Ajax), ASP.NET MVC 4 (query), WPF, Objective C, Html 5
2. Sql Server 2008, Sqlite.

Researcher

2010-10 - 2011-07

Genzeon Corporation

1. Involved in design of Datamodel, Business model and UI framework.
2. Involved in designing ERP apps using Prism 2.0 and 4.0 framework.
3. Finding best solutions to satisfy clients requirements in an efficient way keeping both cost and quality in mind.
4. Helping team to fix issues and train them to use framework that i developed.

Domains Worked:

1. Pharmaceutical company (Document Management System)

Technologies Used :

1. Silverlight 4, MVVM, Caliburn Micro
2. WCF, Rules Engine
3. C# 4.0, Sql Server 2008

Senior Software Engineer

2009-10 - 2010-10

Ness Technologies India Pvt Ltd

Was Involved in designing, developing and maintaining frameworks for the ERP product.

Domains Worked :

1. Life Science (Clinical Trial Management System, Standalone and Web)
2. Forms Designer (Standalone)
3. WorkFlow Builder (Standalone)
4. IVR System(Telecom)

Technologies Used :

1. C# 3.5, WCF, WWF
2. ASP.NET MVC 3, jquery
3. Silverlight 4
4. NHibernate, Spring, AOP, Spring.Core
5. DevExpress Tools
6. Domain Driven Design (DDD)
7. IOC Containers(Umbraco, spring, castle), Dependency Injections
8. Sql Server 2008
9. Voxeo (CCXML, VXML, CFXML)
10. MEF, MVVM, MVC patterns.

Senior IT Consultant

2009-07 - 2009-10

IBS Software Services

Involved in designing framework to develop mobile product in Airlines sector for a company named IBS software services through Thomas Mount Consulting Services.

ASP.NET MVC 5.0, WPF, Metro UI Framework, WCF Services, DDD + CQRS, Event Stores, RabbitMQ. IOS - Objective C, Carbon Framework, Swift frameworks, Apple Push Notification Services
ORM Entity Frameworks
Azure Kubernetes (AKS)

Distributed Systems

This website contains information of Distributed system techs that i have used for creating enterprise projects.
https://sbnair.github.io/distributed_systems/

Full Stack

This website contains information of full stack techs that i have used to solve problems of different customers.
<https://sbnair.github.io/fullstackDev/>

Data Science

This contains information of data science projects that i have worked containing different tools and skills which was used to solve problems for different customers.
https://sbnair.github.io/datascience_portfolio

Ecommerce/Multi channel commerce consulting experience.

1. Oracle ATG Commerce, Endeca Experience Manager.
2. Designed Omni-Channel retailing.
3. J2EE Integration done.
4. Opensource - Php, Laravel, MySQL Db.
5. Opensource - ASP.NET MVC, Sql Server.

EDC and ODC Teams

Worked in Extended Data Centers and Off shore Data Centers for different clients which allowed me to communicate with different multicultural teams from various parts of the world.

Domains Worked :

1. Cargo product in Airlines

Technologies Used:

1. C# 3.5, Windows CE
2. C#.NET Compact Framework
3. Bar Code Scanning
4. Java Axis 2 WebServices, IBM Websphere, Spring, Hibernate
5. Oracle 9i

Senior Software Engineer

2006-11 - 2009-07

Islet Systems

Worked as Sole developer and also as a lead of small team to develop products specified below:

Domains Worked :

1. HealthCare (Medical Billing System, EMR)
2. Telecom (VOIP)
3. Ecommerce (Education)
4. IOS 3.1 and BB Bold 9780 Apps.

Technologies Used :

1. C# 2.0, 3.5, 4.0
2. ASP.NET 3.0, 4.0, jquery, javascript, ASP.NET MVC 2.0
3. DevExpress (Aspx and C# controls)
4. Asterisk server, Kamailio (OpenSer), pjsip, voxeo
5. Silverlight 3.0
6. C++ (Managed and unmanaged)
7. Telerik Control Suite
8. Objective C, sqlite (mac and ios apps)
9. Sql Server 2005, 2008, Oracle 9i, IIS 6.1, IIS 7

Consultant

2007-01 - 2008-11

Freelance

Domains Worked :

1. Electronic HealthCare Record System (Healthcare, Standalone)
2. EDI (HealthCare, Standalone)
3. Event App in iOS
4. Enterprise based Content Management System (CMS)

Technologies Used :

1. ASP.NET 3.5, WCSF, DotNetNuke
1. WPF, C# 2.0
2. Prism 2.0
3. Telerik Tools
4. MVVM, Nunit
5. Sql Server 2008, HL 7 v2.5

Programmer

2006-03 - 2006-10

CCS Technologies Pvt

Involved in developing frameworks, issue fixing and maintenance after deployment.

Domains Worked :

1. Accounting Package (ERP Product, standalone)
2. Electronic Satisfaction Survey (Web based)

Technologies Worked :

Remote Work

Have worked with different teams remotely from different parts of the world like Asia, Europe, US, Australia. Have used remote tools like Slack, WebEx, Skype, Zoom, etc to communicate and understand requirements.

Startups

Have worked in earlier stages of startups like Requirement Gathering, Developing MVP, Gathering Funds, Planning Development Costs, Team Design and Recruitment, Server Design and Project Management, Coding, Various Testing Scenarios, Pre-sales and Post-sales of many Products developed.

Domains

Developed Software Solutions :

1. Capital Markets (Equity Trading and Research)
2. BFSI (Banking Financial Services and Insurance)
3. Avionics
4. Travel Management
5. Health Care
6. Pharmaceutical
7. Renewable Energy.
8. Education
9. HR Management

GitHub Projects

Some of the github projects that I contributed.

1. [finos/perspective](#) - Used in Real time Projects
2. [goldmansachs/gq-quant](#) - Used in Quantitative financial analysis for a client.
3. [jpmorganchase/quorum](#) - Used to Implement Ethereum supported privacy.
4. [sbnair/polkadot](#) - Used to manage different blockchain networks using rust following Polkadot protocol.

1. VB.NET 2.0, DevExpress Controls
2. Sql Server 2005
3. ASP.NET 2.0,DevExpress Controls, Javascript
4. Sql Server Reporting services

Programmer

2002-01 - 2005-12

7Cees Group

Involved in all phases of developing these products starting from Requirement gathering, development, testing, deployment and maintenance

Domains Worked :

1. Real Estate and Plantation (ERP)
2. Retail Stores (POS)
3. Hospitals (Hospital Information System)
4. Ecommerce System

Technologies Worked :

1. C# 2.0, Infragestics, Sql Server
2. VB 3.0, 6.0, Oracle
3. PB 9.0, MS Access
4. C++, C, Java, EJB, JMS, JTA, JSP, Servlets, Hibernate
5. Classic ASP, IIS 5.1
6. Sqlserver 2000, Oracle 6i, mysql 5.2

Education

BE, Computer Science

2000 - 2004

Institution Of Engineers (India), Calcutta

Pre Degree, Maths + Science

1997 - 1999

KG College Kottayam

Skills

Design Patterns used depending on Server and Serverless applications

Domain Driven Design Patterns, Event Store, CQRS, Enterprise Patterns (CAP and CALM Theorems), Messaging Patterns, Distributed Systems, Integration Patterns, Event Driven Systems Architecture.

Financial Indicators : Breadth Indicators, Multi AMA, Dynamic Ind, Multi AMA - Quantile Osc, Vol Multi AMA - Quantile Osc

Financial Indicators specified above been developed working with Investment Banks, Hedge Funds, etc.

C++, Python, OCaml, R, Wolfram Mathematica, TradeStation, MultiChart, ARIMA Models, Correlation and Covariance, Statistical Models, IQFeed API, Apache Kafka, TD Ameritrade and IB Brokers, Zacks Research.

Worked in Developing Custom Indicators, Oscillators, Dynamic Bars based on Ranges.
Worked on developing Low Frequency and Medium Frequency Trading apps.

Node.Js, NestJs, TypeScript, DI, TypeORM, GraphQL, MongoDB, DataLoader, ReactJs, HighChart.Js, HighMap.Js

Developed the generation of Renewable Certificates for Norwegian firm.

C#, ASP.NET MVC 5, WPF,

WinForm, F#, ReactJs, Vue.Js,
Angular Js, Postgres DB,
Oracle 10g



Worked with Microsoft Technologies
to develop B2B products.

Java, MicroServices, SOA,
Spring, Hibernate, Struts,
Hadoop, Pig, Hive, Python,
Kafka, Spark, CAP Theorem,
Rust, Cryptography



Implemented Batch Processing and
Real Time Processing models for
integrating with different ERP Services
and Other Pipelines.