Aryan Singh Bisht

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SUMMARY

Results-driven **Full-Stack Developer** with proven expertise in **React.js**, **Node.js**, **Express.js**, **AWS**, and **DevOps**, as well as **blockchain development** on **Solana** using **React** and **Solana Web3.js**. Successfully built scalable solutions including a **GenAI system** at Samsung PRISM achieving 48.92% improvement in accuracy, and developed **decentralized applications (DApps)** enabling seamless SPL token creation with secure wallet integration. Experienced in end-to-end development with **cloud infrastructure** (AWS EC2, S3, Lambda), **SQL databases**, **MongoDB**, **PostgreSQL**, and modern frontend frameworks. Passionate about delivering high-performance, scalable solutions using **microservices architecture**, **CI/CD pipelines**, and **AI/ML integration**.

PROFESSIONAL SKILLS AND EXPERTISE

Languages: Java, JavaScript, TypeScript, SQL, Python, Rust, Solidity

Frontend Technologies: React.js, Next.js, TypeScript, HTML5, CSS3, Tailwind CSS, Responsive Design

Backend Technologies: Node.js, Express.js, REST API, GraphQL, Microservices Architecture

Databases: PostgreSQL, MySQL, MongoDB, Prisma ORM, Elasticsearch, Redis

Cloud & DevOps: AWS (EC2, S3, Lambda, CloudFront, CloudWatch, API Gateway), Docker, Kubernetes, CI/CD, GitHub Actions

Monitoring & Tools: Prometheus, Grafana, Git, Postman, Webpack

AI/ML & Advanced: OpenAI GPT-4, LangChain, RAG (Retrieval-Augmented Generation), Vector Databases (pgvector), NLP

Blockchain: Solana Web3.js, SPL Token, Wallet Adapter, Smart Contracts, DApp Development, Ethereum, Hardhat

Architectures: Microservices, Monolithic, Event-Driven Architecture, Serverless, RESTful API Design

Certificates:

- *AWS Certified Solutions Architect – Associate* - Certificate Link
- *AWS Cloud Practitioner* - Certificate Link
- *Microsoft Azure AI Fundamentals* - Certificate Link
- *Microsoft Certified: Azure AI Engineer Associate* - Certificate Link
- *Data Structures and Algorithms using Java* - Certificate Link

EDUCATION

Vellore Institute of Technology (Vellore)
Bachelor of Technology in Information Technology   **Sept. 2022 – Dec 2026**

City Montessori School (X)   92.7%
Indian School Certificate   **June. 2018 – April 2019**

City Montessori School (XII)   91.7%
Indian School Certificate   **June. 2020 – April 2021**

WORK EXPERIENCE

Samsung PRISM Research Intern   *VIT Vellore, Sep 2024 – May 2025*
Project Repository   —   Certificate Link

- Increased **PromQL query generation accuracy to 83.33%** by implementing modular **RAG (Retrieval-Augmented Generation)** framework with **hybrid dense-sparse retrieval**, **vector embeddings**, and **syntax correction using LangChain**, achieving **48.92% improvement** over baseline ChatGPT performance.

- Reduced query generation **error rates for complex natural language inputs** by developing **agentic RAG workflows** with **dynamic tool orchestration**, improving system capability to handle ambiguous multi-step queries and edge cases.

- Enhanced **system scalability and data coverage** by curating comprehensive datasets from **Prometheus documentation**, Kaggle NL-PromQL pairs, and custom metrics, implementing robust **data preprocessing pipelines** and **context management strategies** for enterprise-grade performance.

SDE Intern   *Kapitalwise Inc., Jan 2026 – Present*

- Building **full-stack features** across frontend, backend, and **AWS cloud infrastructure** for production financial technology applications

- Developing **RESTful APIs** and **responsive UI components**, implementing **Docker containerization** for streamlined deployment workflows

- Managing **AWS ECS clusters** and orchestrating cloud services (EC2, S3, RDS) to ensure **scalability, reliability, and optimal performance**

SDE Intern   *Bridge Bound Academics, Sep 2025 – Jan 2026*

- Developed **full-stack web platform** using **React.js**, **Node.js**, **Express.js**, and **PostgreSQL**, building **RESTful APIs**, **JWT authentication**, course management modules, and **responsive UI components** with modern design patterns

- Implemented **Agile development practices**, conducted **code reviews**, and collaborated on frontend/backend integration to maintain high code quality standards and ensure timely feature delivery

- Established **CI/CD pipelines** with **GitHub Actions** for automated testing and deployment, architected **scalable backend infrastructure**, and implemented **database optimization** for improved performance and reliability

PROJECTS

TechVerse Blog Platform | *Next.js 15, React 19, TypeScript, Prisma, PostgreSQL* | Live Demo   Project Link
- Developed modern **full-stack blogging platform** using **Next.js 15 App Router**, **React 19**, and **TypeScript**, implementing **server-side rendering (SSR)**, dynamic article search with **real-time filtering**, and **responsive mobile-first design** with dark/light theme using **Tailwind CSS** and modern UI patterns.
- Built robust **backend architecture** with **Prisma ORM** and **PostgreSQL**, implementing **CRUD operations**, **user authentication** via **Clerk**, **role-based access control (RBAC)**, comment system with nested replies, like functionality, and **optimized database queries** with proper indexing.
- Implemented advanced features including **rich text editor (WYSIWYG)**, **image upload and optimization** via **Cloudinary CDN**, **pagination**, skeleton loading states, **full-text search**, and comprehensive **admin dashboard** with analytics, content moderation, and user management capabilities.
- Established **CI/CD pipeline** using **GitHub Actions** with automated testing (**ESLint**, **TypeScript** validation, Prisma schema checks), **multi-environment deployment** (staging/production), deployed on **Vercel** with **Next.js Server Actions**, **Zod validation**, and automated rollback mechanisms.

E-commerce Website | *React, Node.js, Express, MongoDB, SQL, AWS* | Live Demo   Project Link
- Developed **cloud-native full-stack e-commerce platform** with **responsive mobile-first design**, implementing **advanced product search and filtering** by location, price, amenities, ratings using **MongoDB aggregation pipelines** and **SQL joins** for optimized data retrieval and query performance.
- Built **scalable backend** with **Node.js** and **Express.js**, implementing **JWT authentication**, **session management**, shopping cart with **Redis caching**, order processing workflows, comprehensive inventory management with **real-time stock updates**, and **RESTful API design** following best practices.

- Created dual frontend interfaces using **React.js** with **Redux state management**, **lazy loading**, code splitting, and **EJS templating**, implementing modern component architecture with **React Hooks**, context API, and dedicated **Admin Dashboard** for product catalog and order management.
- Integrated comprehensive **AWS cloud infrastructure**: **S3 buckets** for scalable image storage, **AWS Lambda** for serverless image processing and optimization, **CloudFront CDN** for global content delivery, **API Gateway** for API management, and **CloudWatch** for logging and monitoring.
- Deployed on **AWS EC2** with **load balancing**, implemented secure payment processing via **Stripe** and **Razorpay APIs** with PCI compliance, integrated **Prometheus and Grafana** for real-time performance monitoring, order tracking system, and automated email notifications using **SendGrid**.

Solana Token Generator | *React, Solana Web3.js, SPL Token, Wallet Adapter* | Live Demo   Project Link
- Built **decentralized application (DApp)** to create and mint custom **SPL tokens** on **Solana blockchain** with intuitive user interface, implementing **Web3** interactions and **blockchain transaction handling** for seamless token deployment.
- Integrated **wallet connection** using **Solana Wallet Adapter** supporting **Phantom** and **Solflare** wallets for secure **transaction signing**, implementing proper error handling and wallet state management across the application.
- Implemented **token minting logic** with **Solana Web3.js**, including mint account creation, associated token account setup, token metadata configuration, and minting operations with **real-time transaction status tracking** and comprehensive error handling.
- Provided cost breakdown estimation, **wallet balance verification**, and SOL sufficiency checks, designed with **React** for smooth user experience with detailed transaction feedback, loading states, and success/failure notifications.

Fun.Pump Token Launchpad | *React, Solana Web3.js, SPL Token, Wallet Adapter* | Live Demo   Project Link
- Built **decentralized token launchpad platform** on **Ethereum blockchain** with **Solidity smart contracts** using **Factory design pattern**, enabling permissionless token creation and trading with **automated bonding curve mechanics** and liquidity management.
- Developed comprehensive **testing suite** with **Hardhat framework**, implementing **smart contract deployment** via **Hardhat Ignition**, local blockchain testing with **Ganache**, unit and integration tests, and **Ethers.js** integration for blockchain interactions.
- Created **responsive frontend** with **Next.js** and **React**, integrating **Web3 wallet connections** (MetaMask, WalletConnect), real-time token deployment tracking, **transaction monitoring**, and comprehensive error handling on local and testnet environments.

ReachInbox - AI Email Aggregator | *Node.js, Express, Next.js, Docker, OpenAI GPT-4* | Live Demo Project Link
- Architected **real-time email aggregation system** with **IMAP IDLE mode** persistent connections using **Node.js**, **Express.js**, and **TypeScript**, synchronizing multiple email accounts with automatic reconnection handling, **error recovery**, and 30-day historical email synchronization on initialization.
- Developed **AI-powered email categorization** and intelligent response system using **OpenAI GPT-4 API**, **PostgreSQL with pgvector extension** for vector embeddings, and **RAG (Retrieval-Augmented Generation)** implementation with context-aware reply suggestions, achieving automated lead qualification across 5 categories with confidence scoring.
- Deployed **containerized microservices architecture** with **Docker Compose**, integrating **Elasticsearch** for full-text search and real-time filtering, implementing **Slack** and **webhook notifications** for lead management, with **Next.js 16** frontend featuring responsive design and advanced email management dashboard.