# VIRAJ BHARTIYA

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## PROFESSIONAL SUMMARY

Systems-focused backend engineer with experience at Protocol Labs building distributed infrastructure and open-source systems in Go, Rust, and TypeScript. Interested in developer productivity, observability, and resilient compute design.

## ACHIEVEMENTS

- Built decentralized compute and storage frameworks recognized by Sui Foundation, Nethermind, and Protocol Labs.
- Won Best Software Track at national competition for *Parity Protocol*, a verifiable compute network.
- Presented Filecoin-based *PDP Client* at Filecoin Dev Summit; achieved 2M+ proof verifications per day.

## EDUCATION

**B.Tech in Computer Engineering**, K.J. Somaiya College of Engineering, Mumbai *Expected Sept 2027*

## WORK EXPERIENCE

**Open Source Engineer, Protocol Labs — Remote** *Sept 2024 – Present*

- Delivered RPC extensions, proof validation logic, and distributed indexing used in Filecoin production tooling.
- Designed *PDP Explorer* in Go, validating 2M+ proofs/day with fault-tolerant distributed execution.
- Extended Synapse SDK to support deal orchestration across the TypeScript client stack.
- Benchmarked async workflows reducing proof validation latency by 27%.

**Lead Software Engineer, MGEPL — Mumbai, India** *Mar 2024 – Present*

- Designed SLA-driven alert system with Firebase and WebSockets, cutting operational latency by 30%.
- Built tenant-based inventory SaaS for multi-brand retailers with modular sync and billing orchestration.
- Developed monitoring pipelines for service reliability using Prometheus and Grafana.

**Founding Engineer, TopClub — Remote** *Jan 2024 – Sept 2024*

- Architected cross-platform sync layer; enforced sub-300ms response on AWS Lambda-based backend.
- Built scalable Flutter + React apps with concurrent real-time updates.
- Integrated 15+ APIs with fault recovery; improved sync reliability by 28%.

## TECHNICAL PROJECTS

**Parity Protocol** github.com/theblitlabs/parity-protocol
*Go, TypeScript, Docker, PostgreSQL*

- Built verifiable task orchestration across 20+ Dockerized nodes with deterministic output validation.
- Enforced on-chain incentive and reputation logic for distributed compute execution.

**Cognia — Unified AI Memory Infrastructure** github.com/cogniahq/cognia *TypeScript, Node.js, PostgreSQL, Qdrant, Redis, Docker, MCP*

- Built ingestion pipeline capturing browser, application, and system activity through MCP based extensions.
- Designed unified memory layer integrating PostgreSQL for structured knowledge, Qdrant for vector search, and Redis for background processing.
- Implemented deterministic context injection that enables LLMs to recall accurate user memory across sessions.

**MapReduce Engine** github.com/virajbhartiya/map-reduce
*Go, Rust, gRPC, Protobuf*

- Developed gRPC-based master–worker system achieving 3.2× parallel speedup across distributed nodes.
- Implemented automatic recovery after 4/7 node failures without data loss.

## TECHNICAL SKILLS

- **Languages:** Go, Rust, TypeScript, Python, Dart
- **Backend & Infra:** Node.js, Express, PostgreSQL, gRPC, Redis, Docker, AWS, Firebase, NGINX
- **Systems & Observability:** Distributed Systems, Concurrency, CI/CD, Prometheus, Grafana, Jaeger