Mahadevan Reji

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Education

College of Engineering Chengannur — Chengannur, Kerala
Bachelor of Technology in Computer Science and Engineering — *Sept. 2023 – Apr. 2027*

Experience

ZenturioTech — Technopark, Thiruvananthapuram
Web and Mobile App Developer Intern — *June 2025 – July 2025*

- Built on-device ML inference into a React Native app using TensorFlow.js, cutting network dependency and latency
- Developed "Kids Art Studio" end to end, an educational app with automated drawing analysis and real-time feedback

Projects

NotChat | *React Native, TypeScript, Cloudflare* — July 2026 – Present

- Architected a full-stack end-to-end encrypted chat app with real-time WebSocket messaging on a serverless edge backend
- Implemented client-side encryption with X25519 key exchange and AES-256-GCM; messages auto-expire after 24 hours

Bruno | *TypeScript, Radix Tree, AOT* — June 2026 – July 2026

- Designed an AOT-compiled radix tree router that turns route definitions into optimized if-else chains, removing runtime lookup overhead
- Reached a peak throughput of 300,000 req/s, tuned for latency-critical edge runtimes

NanoDB | *Go, B+ Trees, Vector Search* — Jan. 2026 – Feb. 2026

- Built a storage engine from scratch on a slotted page architecture for space-efficient on-disk storage
- Implemented B+ Tree indexing and native vector search for efficient similarity queries over structured data

BunkMate | *React Native, Expo* — June 2025 – Present

- Engineered a local-first attendance management app with centralized backend sync, serving 200+ users
- Owned the full product lifecycle from ideation to deployment, shipping features driven by direct user feedback

SnapBook | *React Native, Node.js, WebSockets* — June 2025 – July 2025

- Built a collaborative scrapbook app with private scrapbooks and shared collabs, using WebSockets and an event-driven architecture
- Synced edits in real time so every collaborator sees changes as they happen

Technical Skills

Languages: TypeScript, JavaScript, Go, Rust, Python, SQL
Mobile & Frontend: React Native, Expo, React
Backend & Edge: Node.js, Bun, Fastify, Hono, Axum, FastAPI, Cloudflare Workers, WebSockets
Developer Tools: Git, Docker, Google Cloud Platform, VS Code
Libraries: TensorFlow.js, pandas, NumPy
Core Engineering: B+ Trees, Storage Engines, Slotted Page Architecture, Vector Search, AOT Compilation