

# Rahul Khanal

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## PROFESSIONAL SUMMARY

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Full Stack TypeScript Developer with extensive experience building scalable web applications using modern JavaScript frameworks. Expertise in Next.js, React.js, NestJS, and Express.js with strong proficiency in SQL and NoSQL databases. Proven track record delivering production-ready solutions including real-time systems via WebSocket and gRPC, cloud deployments on AWS, containerized workflows with Docker, and test-driven development using Jest.

## TECHNICAL SKILLS

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**Languages:** TypeScript, JavaScript, SQL, HTML, CSS

**Frontend:** Next.js, React.js, Redux, Tailwind CSS, Responsive Design

**Backend:** NestJS, Express.js, Node.js, RESTful APIs, WebSocket, gRPC, Microservices

**Databases:** PostgreSQL, MySQL, MongoDB, Redis, TypeORM, Sequelize, Mongoose

**Testing:** Jest, Unit Testing, Integration Testing (NestJS)

**DevOps & Tools:** Docker, Git, GitHub, CI/CD, GitHub Actions, Postman, Swagger, Linux

**Cloud:** AWS (EC2, S3, RDS), Vercel, Netlify, Heroku, Firebase

**Methodologies:** Agile/Scrum, Test-Driven Development, OOP, Clean Code, Microservices Architecture

## PROFESSIONAL EXPERIENCE

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### Full Stack Web Developer

December 2021 – Present

*Digital Pravidhi*

*Kathmandu, Nepal*

- Architected and developed multiple full-stack web applications using Next.js, React.js, and NestJS, improving client business operations and user engagement.
- Designed and implemented scalable RESTful APIs and microservices using NestJS and Express.js with high availability.
- Built real-time communication systems using WebSocket and gRPC for low-latency data streaming across services.
- Implemented Redis caching strategies to optimize API response times and significantly reduce database load.
- Containerized applications using Docker and established CI/CD pipelines with GitHub Actions to improve deployment workflows.
- Deployed and managed cloud infrastructure on AWS (EC2, S3, RDS), Vercel, and Netlify.
- Optimized database performance using TypeORM, Sequelize, and Mongoose across PostgreSQL, MySQL, and MongoDB.
- Implemented responsive, accessible UI components using React.js with TypeScript, Tailwind CSS, and Material-UI.
- Wrote unit and integration tests using Jest and Supertest following NestJS testing best practices.
- Mentored junior developers on TypeScript best practices, code reviews, and modern web development patterns.

### Backend Developer

2024 – 2024

*xplora*

*United Kingdom (Remote)*

- Developed backend services and RESTful APIs using Node.js, Express.js, and NestJS.
- Implemented authentication and authorization features using JWT and bcrypt.
- Designed and optimized database schemas and queries in PostgreSQL with TypeORM.
- Integrated third-party APIs including payment gateways and email services.
- Wrote comprehensive unit and integration tests using Jest and Supertest.
- Collaborated with the frontend team and participated in code reviews for API integration.

### Freelance Full Stack Developer

Project Basis (Ongoing)

*Squiree*

*Remote*

- Collaborated on project-basis assignments, delivering full-stack features and backend services as required.
- Developed and integrated APIs, database schemas, and frontend components aligned with existing system architecture.
- Worked independently to meet project deadlines, adapting quickly to varying codebase requirements and business logic.

## KEY PROJECTS

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### RentMaa | *Property Management Mobile App*

NestJS, PostgreSQL, Redis, WebSocket, JWT

- Engineered backend infrastructure for a rental property management platform available on Google Play Store.
- Developed RESTful APIs using NestJS and Node.js for a dual-interface system serving landlords and tenants.
- Architected PostgreSQL schema with TypeORM covering property registration, rent tracking, invoice generation, and document management.
- Implemented JWT authentication, role-based authorization, real-time notifications via WebSocket, Redis caching, and automated rent reminder scheduling.

### iTrady | *Trading Signals & Analytics Platform*

NestJS, PostgreSQL, WebSocket, gRPC

- Built robust backend services for a trading platform serving users worldwide with real-time market signals across stocks, crypto, and forex.
- Designed scalable NestJS APIs for signal generation, user management, IB referral system, rebate calculations, and analytics tracking.
- Implemented WebSocket connections for real-time signal delivery and gRPC for inter-service communication.
- Integrated third-party financial data APIs and built automated notification systems for market alerts.

## EDUCATION

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### Bachelor in Computer Application

*Madanbhandari College*

*Nepal*

- Focused on Computer Science, Software Engineering, and Database Management Systems.

## ADDITIONAL INFORMATION

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**Certifications:** Python Programming, Digital Marketing

**Languages:** English (Professional), Nepali (Native), Hindi/Urdu (Fluent)

**Interests:** Music (Guitar, Flute, Singing), Continuous Learning