



Miro Mariapori

Full-stack Software Developer | TypeScript, React & Node.js

SUMMARY

Software developer with hands-on experience in React, TypeScript, Node.js, GraphQL, and database-backed applications. My strongest proof of work is the 15-month GameRAT research project, where I was responsible for all web development and built the frontend, backend, authentication, 3D exercise editor, movement-data processing solutions, and a neural network for physiotherapy movement analysis. I am open to software development roles throughout Finland and willing to relocate.

CONTACT INFORMATION

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CORE STRENGTHS

- TypeScript, React, Next.js, and complex web interfaces
- MongoDB, PostgreSQL, and data-model design
- Testing, linting, and automated CI/CD processes
- Node.js backends, GraphQL/REST APIs, and authentication
- WebSockets, Three.js, and data-processing pipelines
- Server deployments and independent ownership of complete systems

WORK EXPERIENCE

Software Developer

Helsinki XR Center • 1/2024 – 3/2025

- Solely responsible for all web development in the 15-month GameRAT research project as part of a four-person multidisciplinary team
- Designed and implemented the React frontend, Node.js/GraphQL backend, MongoDB data model, JWT authentication, and role-based access control
- Built a Three.js 3D exercise editor and the Quest 3 movement-data processing and analysis pipeline
- Designed and implemented a neural network for a proof of concept in detecting incorrect physiotherapy movement, plus the backend that received its training data
- Handled server deployments and data protection, including backend-only database access and AES encryption for stored patient-related data
- In user testing by physiotherapists, the web system was found functional and sufficiently easy to learn

Project-based

Freelance Software Development • 8/2022 – Present

- Completed six smaller client projects, including websites, WordPress solutions, automations, and integrations
- Built a Python Telegram bot for CSV data processing as well as WordPress/PHP solutions
- Independently handled requirements, scope, implementation, and delivery for small assignments

TECHNOLOGIES

Programming languages: TypeScript, JavaScript, Python, C#, SQL

Backend and APIs: Node.js, Express.js, GraphQL, REST, WebSockets, OAuth2, JWT, Sessions, Role-based access control

Infrastructure and delivery: Docker, Azure, Fly.io, Vercel, Nginx, PM2, GitHub Actions, Git

Other: Three.js, .NET, Unity API integration, Custom neural-network implementation, WordPress, PHP, Rust (learning)

Frontend: Next.js, React, React Native, HTML5, CSS3, Tailwind CSS

Data: MongoDB, PostgreSQL, Data modeling, AES encryption

Testing and automation: Node.js test runner, Linting, CI/CD, Shell scripting, Python-based data processing

PROJECTS

Gamified Joint Rehabilitation, Analysis and Training (GameRAT)

- Solely responsible for web development as part of a four-person multidisciplinary team; implemented the React/Three.js interfaces, GraphQL backend, authentication, and MongoDB data model
- Designed and implemented a neural network for detecting incorrect physiotherapy movement and the backend that received its training data
- Implemented the Quest 3 movement-data pipeline, Unity APIs, AES encryption, and server deployments

Route Management System for an Autonomous Tracked Articulated Vehicle (thesis)

- Built a React/Leaflet and Node.js/WebSocket thesis system for route creation, command routing, and monitoring of an autonomous tracked vehicle
- Implemented a vehicle simulator, vehicle-specific command routing, and a lost-connection stop behavior as a foundation for later integration
- Communication was integrated as far as the vehicle computer, but the system was not yet deployed end to end in the actual vehicle during the thesis

TKIO-Finder

- Built a working full-stack demo for Metropolia as the client to improve discoverability of RDI project positions
- Implemented PostgreSQL models, search, filters, Google OAuth2, role-based access, mutual matching, and private-server deployment

EDUCATION

Bachelor of Engineering, Information and Communications Technology

Major: Software Engineering

Metropolia University of Applied Sciences

Expected graduation: August 2026

LANGUAGES

- Finnish – native
- English – fluent / professional working proficiency