



System-Engineer , Full-Stack Developer

BAYASGALAN BATTULGA

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EDUCATION

ITEngineering Student, Full-Stack Development Track

Shimane IT Design College | Shimane, Japan Diploma in IT Engineering (Full-Stack Track) | Expected Graduation: March 2026

Focus: Web Application Architecture, Algorithms, Database Management, Object-Oriented Programming, engineering principles.

JAPANESE LANGUAGE STUDIES

2024 – Completed | Ohara Japanese Language School , Tokyo

LANGUAGE

- Mongolian: Native
- English: Business Fluent (C1/C2) – Capable of technical documentation and professional negotiation.
- Japanese: Advanced (N1/N2 Level) – Currently living and studying in Japan.
- German: Intermediate (B1/B2) – 5 years of academic study. Able to communicate in professional settings.

PROFESSIONAL PROFILE

Multilingual Full-StackEngineer (English C1, Japanese N1/N2) with specialized expertise in Microservices Architecture, AWS Cloud Infrastructure, and AI Integration. Proven track record of building production-ready SaaS applications using Next.js, Python, and Ruby on Rails. Recently completed an intensive Full-Stack & Cloud Bootcamp focusing on Serverless architectures (AWS Lambda, Cognito). Passionate about solving complex engineering challenges, from Docker networking to real-time audio processing.

PROJECT EXPERIENCE (PORTFOLIO)

AIReceptionist (VoIPAutomationSystem) | Python,Docker,Audio engineering

- Role: Lead Dev
- Engineered a production-grade AI Voice Operator capable of handling real-time VoIP calls using Python.
- Technical Challenge: Solved critical Docker NAT routing and Promiscuous RTP mode issues to ensure stable, low-latency audio streaming.
- Integrated OpenAI Function Calling to perform real-time database queries during live conversations.

EcoRoute Optimizer | Microservices: Python, Rails, Next.js

- Role: Full-Stack Architect
- Designed a sustainable logistics platform using a decoupled Microservices Architecture: Python for calculation logic, Ruby on Rails for management API, and Next.js for the UI.
- Utilized OSRM (Open Source Routing Machine) to optimize delivery routes based on real-world physics and traffic data.

BookingSystem SaaS | NestJS, Next.js, PostgreSQL

- Role: Full-Stack Developer
- Built a comprehensive booking platform featuring Role-Based Access Control (RBAC) and Multi-language support (i18n).
- Implemented secure payment processing using Stripe API and deployed the system with optimized database queries.

MindSync AI | AI/ML, Fast API, Whisper

- Developed a voice-enabled AI counseling tool localized for the Japanese market.
- leveraged OpenAI Whisper (STT) and high-quality TTS models for naturalhuman-AI interaction with secure authentication.

TECHNICAL SKILLS

- Frontend Ecosystem: Next.js 14 (App Router), React, TypeScript, Tailwind CSS (v4), Framer Motion, Three.js.
- Backend & API: NestJS, Python (FastAPI), Ruby on Rails, Node.js, GraphQL/REST APIs.
- Cloud Infrastructure: AWS (Lambda, S3, Cognito, DynamoDB), Vercel, Supabase, Docker.
- AI Integration: OpenAI API (Function Calling, Whisper), Vector Databases, OpenCV, Mediapipe.