

MICHAEL JAMES CARNAJE

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EDUCATION

Mindanao State University – Iligan Institute of Technology

Bachelor of Science in Computer Science

Iligan City, Philippines

Aug. 2021 – June 2025

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python

Frontend: HTML5, CSS3, Tailwind CSS, Sass, React, Vite, Next.js, React Native, Expo, TanStack Query, Zustand, Tamagui, shadcn/ui

Backend: Node.js, Express, NestJS, Flask, Django, GraphQL, Firebase, Supabase, Socket.IO, BullMQ, Mongoose, Passport

Databases: MongoDB, MySQL, PostgreSQL, SQL, Redis

Tools: Git, Docker, Stripe, Twilio, Resend, RxDB, AWS S3, Cloudinary, OpenAI SDK, Google Generative AI, Puppeteer

EXPERIENCE

Geriatric Care Solution

Full-Stack Web Developer

Jan. 2024 – May 2024

Remote, California, USA

- Independently architected and developed 3 enterprise-scale full-stack applications using **Next.js**, **React Native**, dual AI integration (**OpenAI GPT-4**, **Google Generative AI**), and **Stripe** payment processing
- Engineered **Anaya Care** - enterprise-grade monorepo with **NestJS backend (30+ modules)**, **React Native mobile (72 screens)**, and **Next.js web (94+ dashboard pages)** featuring 9 specialized AI services, dual **Socket.IO** gateways, and **BullMQ + Redis** background processing
- Built comprehensive mobile app with 6 role-based interfaces, GPS-tracked time clock, real-time messaging, and HIPAA-compliant document management (Lockare) with advanced shift scheduling using RRule patterns
- Implemented real-time collaborative features across web and mobile platforms with **Socket.IO**, modern state management using **TanStack Query** and **Zustand**, and automated AI-powered care planning across 9 health domains
- Built scalable subscription-based digital asset platforms (**Care Prints**, **For Little Readers**) with watermarking protection, secure content delivery, and integrated **Twilio** SMS and **Resend** email services across all applications

BuildMyWealth

Lead Mobile Developer & Co-Founder

Jan. 2022 – Present

Remote, Las Piñas, PH

- Co-founded fintech startup focused on personal financial management; led mobile development using **React Native** and **Expo**
- Architected offline-first data sync with **RxDB**, achieving seamless local persistence and conflict resolution on reconnect

Creating Info

Mobile Developer (Contract)

Oct. 2023 – Apr. 2024

Remote

- Developed 3 React Native applications: warehouse management system, EasyBrand cooking platform, and geo-based promotional notification app
- Implemented offline caching of data and images across all applications, ensuring seamless user experience in low-connectivity environments

Vashcorp Inc.

Front-End Web Developer

Jan. 2023 – July 2023

Remote, Quezon City, PH

- Developed two high-performance websites with **Next.js**, applying modern best practices for SEO and accessibility

Freelance Web & Mobile Developer

Self-Employed

Sep. 2021 – Oct. 2022

Iligan City, PH

- Developed full-stack solutions for academic thesis projects using MERN stack and React Native
- Created a crypto accounting front-end and TikTok analytics dashboard, enhancing data visualization for end users

Sunnyside

Mobile Developer

Feb. 2021 – June 2021

Remote, Iligan City, PH

- Built two React Native apps: a financial management tool and a warehouse inventory system, collaborating in a two-person team

PROJECTS

Anaya Care Backend Architecture | *NestJS, Passport, BullMQ, Redis, AWS S3, Expo Push*

- Architected scalable backend with 30+ **NestJS** modules using event-driven architecture with EventEmitter2 for cross-module communication and dependency injection patterns
- Designed background job processing system with **BullMQ** and **Redis** queues (notification, shift generation, AI processing, email) with retry logic and Bull Board monitoring dashboard
- Implemented multi-method authentication with **Passport** strategies (JWT, Local, Phone OTP via Twilio) and hierarchical role-based access control across 6 user roles
- Integrated **AWS S3** with presigned URLs for secure file uploads, **Expo Push Notifications** for mobile alerts, and comprehensive API error handling with global exception filters

Cognitive Activities Engine | *MongoDB Aggregation, OpenAI, Google AI, Puppeteer, Cloudinary*

- Engineered complex activity system with 13 cognitive activity types (crossword, word search, sudoku, paint-by-numbers, etc.) and bidirectional transformation algorithms between compatible formats
- Built **MongoDB** aggregation pipelines with pagination, multi-field search, and real-time member tracking for family circles with compound indexes for query optimization
- Developed AI-assisted e-book wizard with 7-step workflow using **OpenAI GPT-4** for story generation and **Google Generative AI** for image creation with 4 reading difficulty levels
- Created **Puppeteer**-based server-side PDF generation for printable activities and care proposals with custom fonts, watermarking, and **Cloudinary** image optimization

BuildMyWealth - Offline-First Architecture | *React Native, Expo, RxDB, CouchDB, CRDT*

- Architected offline-first mobile fintech app using **RxDB** with local-first data persistence and bi-directional CouchDB synchronization, enabling full functionality without network connectivity
- Implemented **CRDT**-based (Conflict-free Replicated Data Type) conflict resolution algorithm ensuring eventual consistency across devices when reconnecting after extended offline periods
- Designed reactive data layer with RxDB observables providing automatic UI updates on data mutations, eliminating manual state management for complex financial transaction workflows
- [buildmywealth.app](#)