

BASIL FRANCIS ALAJID

Systems-Oriented Full Stack Engineer

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SUMMARY

Systems-oriented full stack engineer with 5+ years building stateful enterprise applications, complex client-side architectures, and automated test infrastructure. Ships Rust/WASM modules alongside TypeScript. Building AI-powered mobile and web applications with LLM API integration. Experience with Python ML/AI training pipelines (Django, FastAPI, Flask, PyTorch). Builds computational simulation tools with WebGL2 rendering and Web Worker isolation. Vetted on Toptal (top 3%), Arc, Mercor, and micro1. Open to remote roles.

EXPERIENCE

Software Engineer | Accenture

Sep 2024 - Present

- Own a stateful case management system for a government agency, enforcing deterministic state transitions across multi-stage workflows.
- Implement SLA-driven assignment routing, decision rules, and flow actions governing case lifecycle progression with zero ambiguous state.
- Build REST integration layer with scoped data pages, normalizing external API responses into internal data models.
- Architect reusable UI sections with conditional visibility rules and cross-case-type validation, reducing duplicated rendering logic by 60%.
- Designed and own the Playwright + CRX E2E test harness, cutting QA cycle time by 40% through deterministic browser automation.

Freelance AI/ML Programmer | Alignerr

Apr 2025 - Dec 2025

- Evaluated and validated Python solutions across Django, FastAPI, Flask, and PyTorch projects for AI model training pipelines on the Labelbox platform.
- Identified logical flaws and validated code correctness across diverse programming challenges for algorithm optimization and pattern recognition.
- Maintained high accuracy and throughput under time constraints across computer vision and algorithmic logic annotation tasks.

Quality Assurance Engineer | Blueberry Digital Labs

Jul 2023 - Sep 2023

- Validated data integrity across API responses, database state, and server-side components by tracing request lifecycles end to end.
- Mapped spec documents to system behavior, isolating defects at the boundary between expected and actual state transitions.
- Evaluated QA tooling for integration into CI workflows, providing technical assessments on coverage and false-positive rates.

Freelance Software Developer & IT Consultant | Independent

May 2019 - Present

- Shipped custom software in Java, Python, and C++ for SMEs, scoping requirements, owning architecture decisions, and delivering production code.
- Configured Cisco routing and switching for small business networks, debugging connectivity at the packet level.
- Built client-facing web apps and automation scripts, handling the full cycle from data modeling to deployment.

TECHNICAL SKILLS

Languages TypeScript, JavaScript, Rust, Python, Java, C++

Frontend React, React Native (Expo), Next.js, TanStack React Query, Tailwind CSS, Framer Motion, Three.js/R3F, HTML Canvas, WebGL2

Backend & Data Node.js, Django, FastAPI, Flask, REST APIs, binary parsing (Rust + JS, ArrayBuffer, XOR), PostgreSQL, MongoDB

Architecture Deterministic state machines (useReducer), Rust/WASM (wasm-pack), Web Workers (Comlink), rAF loops, IndexedDB, PWA

AI/ML PyTorch, Anthropic Claude API, multi-layer prompt architecture, LLM guardrails, AI training pipelines, Labelbox, on-device ML

Simulation Agent-based modeling, stochastic SIS dynamics, spatial hashing (slotmap), WebGL2 instanced rendering, Canvas2D overlays

Analytics Google Tag Manager, GA4 event tracking, dataLayer integration, A/B testing

Testing Playwright, CRX, Vitest, E2E browser automation, cross-browser QA, spec-to-defect tracing

Tools Git, Linux, Docker, Cisco Networking, Agile/Scrum

CERTIFICATIONS

Toptal (top 3%) | Arc | Mercor | micro1 (2026) | Turing Certified | Design Patterns & SOLID (2025) | CompTIA Cloud Essentials+ (2025) | CCNA Network Security (2022)

EDUCATION

BS Computer Engineering, Network Administration | AMA University Cebu

Oct 2023

President's Lister | SSC President 2023 | 2020 ML eSports Champion | ARC Research Participant 2023

PROJECTS

STH-Sim Cebu *Next.js 14, TypeScript, Rust/WASM, Zustand, WebGL2, Canvas2D, Recharts, Web Workers, Comlink*

- Agent-based epidemiological simulation modeling soil-transmitted helminth transmission in Cebu City barangays, calibrated against published medical thesis data. Rust/WASM core modeling 500+ agents with stochastic SIS infection dynamics across three STH species, WHO EPG classification, hourly time steps, and environmental contamination grids.
- KAP behavioral model with structural dominance gates reproducing thesis findings (20.3% urban vs 4.9% rural prevalence). Intervention system (MDA deworming, WASH infrastructure, health education) with budget constraints and drug efficacy modeling. WebGL2 instanced renderer with contamination heatmap overlay and urban vs rural comparison mode.

GymOS *Next.js 16, TypeScript, Rust/WASM, Three.js/R3F, Zustand, Recharts, IndexedDB, PWA, On-device ML*

- AI-powered strength training copilot PWA with on-device pose estimation for real-time rep counting and form feedback. Rust/WASM analytics engine for autoregulated progression (readiness, RPE, load management). 3D body mechanics visualization via React Three Fiber.
- LLM coaching layer with retrieval + tool calls constrained by evidence-based exercise KB. Program-based workout system with useReducer state management, equipment recognition, pain-aware substitutions, and form-drift fatigue detection. Service worker offline support with IndexedDB persistence and Comlink Web Worker bridge.

ScentVault *React Native, Expo, Next.js, TypeScript, Anthropic Claude API, PostgreSQL*

- AI-powered fragrance discovery platform with Claude API integration. Three-layer system prompt architecture (BASE/CHAT/DECIDE) with 16 guardrails and collection context schema. Custom fragrance API merging Fragrantica and Parfumo datasets into unified data layer.

Professor Basil's Lab *Next.js 16, TypeScript, Rust/WASM, TanStack Query, mGBA WebAssembly, PeerJS*

- C++ GBA emulator (mGBA) integrated into Next.js via WebAssembly, bypassing Turbopack static analysis with runtime dynamic imports, reducing build time from infinite hang to ~3 seconds.
- Rust/WASM binary save parser: XOR decryption, 24-permutation sub-structure shuffling, bit-packed IV extraction (63 Rust + 20 JS tests). Deterministic battle engine as pure React reducer with 50+ held item effects, weather/terrain systems, and AI opponent. P2P multiplayer via PeerJS. Client-side persistence with localStorage + IndexedDB and TanStack React Query cache invalidation.

Manila Watch Atelier *React 18, TypeScript, Vite, Tailwind CSS, Prisma, PostgreSQL, GTM, GA4*

- Full-stack luxury watch lead gen with 20-currency live exchange rate conversion, multi-step inquiry funnels, and CRO components (scarcity badges, countdown timers, FOMO counters) lifting inquiry submissions 35% over static baseline.
- Client-side A/B variant injection via DOM manipulation with GA4 event attribution. Funnel state persistence with sessionStorage, UTM passthrough, and cross-domain conversion attribution. QA across Chrome, Safari, Firefox, Edge, iOS Safari, Samsung Internet.

Open Source: **Auditfix**, **Playwright Archaeologist**, **dev-savestate** *TypeScript, Node.js, npm*

- Auditfix: automated security audit remediation with intelligent dependency resolution. Playwright Archaeologist: dead test detection and coverage mapping. dev-savestate: development environment state serialization and restoration for context switching.