

# Portfolio Project – Context & Handoff Brief

A concise reference so a fresh chat (or teammate) can pick up the portfolio without re-asking for context.

## 1) Intent & Audience

- **Goal:** One-page portfolio for a Computer Science major emphasizing projects, skills, and contact.
- **Tone:** Clean, modern, slightly playful (neon accents), performant.
- **Navigation:** Fixed vertical sidebar on desktop; **burger menu** on mobile.
- **Behavior:** Each section is **at least one viewport tall** and snaps during scroll.

## 2) Tech Stack & Conventions

- **Framework:** Next.js (App Router, TypeScript).
- **Styling:** Tailwind CSS v3 (stable). Global custom CSS in `globals.css` for special effects.
- **Icons:** `react-icons` (Font Awesome, Simple Icons, etc.).
- **Linting:** ESLint with rules like `react/no-unescaped-entities`, `prefer-const`.
- **Design Tokens:** Kept inside `tailwind.config.*` under `theme.extend` (no Tailwind v4 `@theme`).
- **Fonts:** System by default; optional display font for headers (not locked to Google Fonts).

Install (baseline):

```
npm i -D tailwindcss postcss autoprefixer
npx tailwindcss init -p
npm i react-icons
```

## 3) Layout & Section Contracts

- `<main class="h-screen overflow-y-auto snap-y snap-mandatory p-6">`
- Each section: `class="min-h-screen snap-start ..."` and internal spacing via `gap-*`.
- **Content margin vs. sidebar:** Ensure sidebar width (e.g., `w-40`) matches content offset (`ml-40`).

### Sections

1. **Home / Featured Project**
2. Neon-framed **autoplay video** (muted, loop, object-cover) inside a bordered container.
3. Title animates in; video fills ~70vh; subtle padding via internal border overlay.
4. **About**
5. Big gradient header: *Hello, I am Ming Kai.*

6. **Short summary** (2–3 sentences) + **responsive round portrait** using `clamp()` in `rem`.
  7. Background: soft radial glow + faint grid to avoid emptiness.
  8. **Projects**
  9. Responsive **card grid** (1/2/3 cols). Each card has: title, one-line purpose, **16:9 media** slot.
  10. Until real GIFs exist, use **CSS shimmer placeholder** (`.shimmer-bg`).
  11. **Experience**
  12. Two polished cards (DBS, Ngee Ann) with logo, role/date **pills**, 3–4 concise bullets, tags, and optional `<details>` **More details**.
  13. **Skills**
  14. Vertical list of **Skill cards** with large icon-as-image, short blurb, 3 bullets, and tools chips.
  15. Buckets derived from prior work: Front-end, Back-end, Automation/SRE, Computer Vision, Game Dev, UI/UX.
  16. **Achievements**
  17. Cert cards mirroring Skills style. Current: **AWS SAA (Associate)** and **AWS CCP (Foundational)**.
  18. Buttons for **View Badge** and (optional) **Verify** links.
  19. **Contact**
  20. Full-screen call-to-action with **LinkedIn** and **GitHub** icons (very large, animated on hover).
  21. Background: **SSR-safe starry sky** via `.star-bg` (pure CSS)—no randomness to avoid hydration issues.
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## 4) Key Components/Files (paths & purpose)

- `src/app/layout.tsx`: Imports `./globals.css`, renders fixed sidebar, sets content offset.
- `src/app/page.tsx`: Assembles sections in order above.
- `src/components/Starfield.tsx`: **Animated canvas starfield** (client). Use when needed; otherwise prefer `.star-bg` CSS to avoid SSR randomness.
- `src/components/SkillsSection.tsx`, `AchievementsSection.tsx`, `ProjectsSection.tsx`: Section components (server-safe; no styled-jsx).

**Case-sensitive filenames matter on Vercel (Linux).** Use `Starfield.tsx` exactly; avoid `StarField.tsx`.

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## 5) Global CSS snippets used

- **Starry background (SSR-safe)**: `.star-bg` with layered radial-gradients + `@keyframes starTwinkle`.
- **Shimmer placeholder**: `.shimmer-bg` animation for project GIF slots.

(Place both in `src/app/globals.css` and ensure `import './globals.css'` in `layout.tsx`.)

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## 6) Known Pitfalls & Fixes

1. **Hydration mismatch** from randomness (`Math.random()`, `Date.now()`):

2. Solution: No randomness in SSR. Use pure CSS ( `.star-bg` ) or render random effects **client-only** with `dynamic(() => import(...), { ssr:false })`.
  3. **styled-jsx in Server Component** error:
  4. Cause: `<style jsx>` inside a Server component.
  5. Fix: Move CSS to `globals.css` or add `"use client"` (prefer the former).
  6. **Case-sensitivity (TS1261 / Vercel build fail):**
  7. Fix: Two-step Git rename; ensure all imports use identical casing.
  8. **ESLint** `react/no-unescaped-entities`:
  9. Use smart apostrophe `'` or escape as `&#39;`.
  10. `prefer-const` **warnings**:
  11. Convert loop variables to `const` when not reassigned.
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## 7) Content Data (current)

### Projects

- Game – Tierlist — quick tier-list builder for games — **GIF: pending**
- Zylar's World — low-poly sandbox / systems experiments — **GIF: pending**
- Project Turn-Based — FE-style tactics prototype — **GIF: pending**
- Port Navigation App (PSA Codesprint) — berth routing/lookup POC — **GIF: pending**
- RouteRunner — pathfinding visualizer — **GIF: pending**
- MDP Android Dev — robotics client/telemetry — **GIF: pending**

### Skills Buckets

Front-end · Back-end · Automation/SRE · Computer Vision · Game Dev · UI/UX (each with 3 bullets & tools chips).

### Experience

- **DBS Bank** — Site Reliability Engineer (Intern) — May-Dec 2025 — 4 concise bullets; tags: SRE, Automation, Low-code, UAT.
- **Ngee Ann Polytechnic** — Technical Assistant — Mar-Sep 2021 — 4 concise bullets; tags: Python, OpenCV, CARLA, Testing.

### Achievements

- **AWS Certified Solutions Architect – Associate** (badge/verify links TBD)
- **AWS Certified Cloud Practitioner** (badge/verify links TBD)

### Contact

- LinkedIn: <https://www.linkedin.com/in/ming-kai-gay-2306aa163>
  - GitHub: <https://github.com/MingKaiDev>
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## 8) How to add/replace media

- **Featured video:** `public/items/PortfolioVideo.mp4` referenced via `/items/PortfolioVideo.mp4`.
  - **Project GIFs:** export to `public/gifs/<project>.gif`, then set `gif: "/gifs/<project>.gif"` in the `projects[]` array.
  - **Logos/Images:** place under `public/images/` and reference with `/images/...`.
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## 9) Mobile

- Sidebar collapses to a **burger menu** (client component). Ensure it's marked with `"use client"` and doesn't SSR any `window` branches.
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## 10) Open TODOs / Nice-to-haves

- Replace temp project GIFs with real captures.
  - Add project detail pages (or external links) behind cards.
  - Consider Framer Motion **scroll-reveal** (fade/slide) for cards.
  - Add email CTA/button in Contact.
  - Add unit of "Featured Project" CTA (GitHub/demo link) and caption.
  - Swap system font for a display header (optional) and lock typographic scale.
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**This brief** captures the constraints, fixes, and how to extend. Paste it into a new chat as a starting context, or share it with collaborators.