

NINNA CAO

DESIGN LEADER | AI WORKFLOWS & DESIGN OPERATIONS | PRODUCT STRATEGY

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PROFESSIONAL PROFILE

Design and product leader with 10+ years across global consumer technology, industrial AI, and 0-to-1 product development. Lead end-to-end design in complex cross-functional environments, from research and problem framing through prototyping, launch, and iteration, while improving the workflows and collaboration models around the work itself. Over the past two years, have actively experimented with AI-assisted research, synthesis, design-system-constrained prototyping, visual generation, and evaluation workflows, turning successful experiments into repeatable ways of working across Product, Design, Engineering, Firmware, AI, and business teams.

PROFESSIONAL EXPERIENCE

GN Group - SteelSeries | Senior Product Designer

Singapore | Aug 2024 - Present

- Lead end-to-end product design across a portfolio of global gaming software experiences for mice, keyboards, headsets, and controllers, owning research, problem framing, interaction models, prototypes, design quality, and launch readiness across concurrent NPI programmes.
- Established cross-functional ways of working with Product, Engineering, Firmware, and business teams across Singapore, China, the US, and Europe, translating ambiguous requirements into shared product decisions and reusable design patterns; contributed to 10+ NPI launches while balancing user needs, technical constraints, and delivery timelines.
- Identified repetitive design and handoff work as a workflow problem and initiated an AI-assisted design workflow using structured requirements, SteelForge design-system rules, Codex-generated prototypes, visual-generation workflows, and human QA; defined experiments and evaluation criteria to turn successful patterns into repeatable team process.

Innowave Tech Pte. Ltd. | Founding Product Designer

China & Singapore | Aug 2019 - Feb 2024

- Led 0-to-1 product and experience strategy for AI-powered semiconductor inspection, working directly with enterprise users to translate complex operational problems into service workflows, product requirements, interfaces, model-evaluation criteria, and deployment plans.
- Built and led a 15-person multidisciplinary Product, Design, Engineering, and AI team across China and Singapore; shaped team structure, project rituals, decision-making, and cross-functional collaboration while mentoring team members and coordinating customers, suppliers, and technical stakeholders.
- Created a repeatable productisation process connecting user research, industrial hardware, AI models, web/mobile software, pilot feedback, and iteration; helped move solutions from proof-of-concept to commercial deployment, with associated 0-to-1 products securing 90+ enterprise orders in the first month and supporting \$500K+ in R&D funding.

Lumino Studio | Product Designer Lead

Vancouver, Canada | Sep 2015 - Jun 2019

- Built a consumer creative-commerce business from concept to revenue, owning customer research, product and experience design, brand, production, partnerships, and go-to-market; used direct feedback from 10+ major North American conventions to continuously refine both the customer experience and the operating model behind it.

SELECTED LEADERSHIP & AI WORKFLOW CASES

AI-Assisted Design Workflow Modernisation

SteelSeries | Design Operations, AI Workflows & Cross-functional Collaboration

- **Situation:** Multiple NPI programmes repeatedly required briefs to become research synthesis, interaction flows, UI prototypes, visual concepts, motion studies, and engineering-ready specifications. A lean design function was recreating similar artefacts, manually checking design-system compliance, and carrying context across disconnected tools and teams.
- **Task:** Treat the workflow itself as a design problem: identify where AI could reduce repetitive work, improve collaboration between Design, Product, Engineering, and Firmware, and create a repeatable process without sacrificing design quality, product constraints, or human judgement.
- **Action:** Designed and tested a modular workflow covering requirement structuring, research/synthesis, design-system-constrained UI generation, interactive prototyping, visual exploration, and QA. Built a SteelForge-aware Codex Skill to encode component and interaction rules, added human review and failure logging, and used structured experiments to compare AI-assisted outputs against conventional workflows. Successful patterns were documented as reusable prompts, rules, templates, and handoff practices rather than one-off tool tricks.
- **Result:** Built a working AI-assisted design workflow and a repeatable evaluation framework around requirement coverage, design-system compliance, usability, and human approval. The approach reduced repetitive manual steps across suitable concept-to-prototype tasks and created reusable practices that can be carried forward across future projects.

SELECTED LEADERSHIP & AI WORKFLOW CASES - CONTINUED

Global Product Design & NPI Operating Model

SteelSeries | Portfolio Design Leadership, Design Systems & Cross-functional Delivery

- **Situation:** Concurrent launches across mice, keyboards, headsets, and controllers involved different product owners, firmware constraints, engineering teams, regions, and timelines. Design quality depended on repeatedly carrying product context and aligning stakeholders across distributed teams.
- **Task:** Create a more repeatable way for Design to work with Product, Engineering, Firmware, and business stakeholders from discovery through launch, while maintaining consistency across products and making decisions easier to communicate and reuse.
- **Action:** Standardised key parts of the workflow around requirement intake, user and competitive evidence, design-system reuse, interaction specifications, stakeholder reviews, prototype validation, engineering handoff, and iteration. Used SteelForge as the source of truth for components and patterns, facilitated cross-functional decisions, and carried learnings between programmes rather than treating each launch as a standalone design exercise.
- **Result:** Supported 10+ global NPI launches with a more consistent design and collaboration approach across distributed teams, improving continuity between product intent, design decisions, technical implementation, and launch readiness without relying on one-off processes for every programme.

AI-Powered Semiconductor Inspection Platform

Innowave Tech | Design Leadership, AI Productisation & Multidisciplinary Team Building

- **Situation:** Semiconductor production teams relied on manual inspection for scratches, contamination, surface abnormalities, and evolving defect types, creating inconsistent judgement, throughput bottlenecks, and costly missed defects.
- **Task:** Lead the product and experience design of a deployable inspection platform that connected operators, quality teams, industrial hardware, AI models, and software into one coherent workflow.
- **Action:** Defined operator journeys, defect taxonomy, interaction flows, acceptance criteria, and model success metrics with customers and quality teams; worked as a peer with AI, engineering, and hardware leads on image capture, detection/segmentation, confidence handling, human review, and web/mobile interfaces; established feedback loops that turned validated operator corrections into future model and product iterations.
- **Result:** Built and led a 15-person multidisciplinary team and created a repeatable discovery-to-deployment model for AI-enabled industrial products; associated 0-to-1 solutions secured 90+ enterprise orders in the first month.

CORE CAPABILITIES

Design Leadership & Operations: Design Leadership | Design Operations & Workflow Design | User Research & Service Design | Cross-functional Facilitation | Design Systems | Interactive Prototyping | Portfolio & Programme Design | Experiment Design & Evaluation | Team Leadership & Mentoring | Product Strategy

AI & Emerging Workflows: AI-assisted Design Workflows | LLM / Generative AI | RAG & Knowledge Workflows | Prompt & Context Engineering | Human-in-the-loop Design | AI Evaluation & Quality Gates | Computer Vision / ML | AI Prototyping | Stable Diffusion / ComfyUI | LoRA / ControlNet

Tools: Figma | Codex | ChatGPT | Claude | Gemini | Google AI Studio | Axure | Python | SQL

EDUCATION

Nanyang Technological University (NTU) | MSc, Technopreneurship & Innovation (TIP) | In Progress

- Exceptional Acceptance (1 in 10)

Brest Business School | Master's, International Business & Management | 2021-2023

TEACHING & TEAM DEVELOPMENT

Nanyang Technological University (NTU) | Part-Time Product & Design Thinking Educator / Guest Speaker | 2025-Present

RECOGNITION & CREDENTIALS

Red Dot Award Winner (2023) | MUSE Creative Awards Platinum & Gold (2025) | French Design Award Gold (2023) | UX Design Award Nominee (2024)

Manus AI x OOJU Hackathon - 3rd Place (2025) | Patent: Graphical User Interface for Remote Assistance Video Calls on Electronic Devices

Certifications: PMP | Google & NUS UX Credentials | Generative AI - DeepLearning.AI / Microsoft / LinkedIn | Adobe Certified

Languages: English - Fluent | Mandarin Chinese - Native