Jiayu Chen

Industrial Design × Engineering × Materials Innovation

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EDUCATION

ArtCenter College of Design — **Expected April 2026**
Bachelor of Science in Product Design (STEM-Designated), Minor in Business — **Pasadena, California**

Selected Coursework: Design Lab Studio, Design for Sustainability, Wearables: Material Futures, Brand Strategy Lab, Human Factors & Ergonomics, Design for Manufacturing
Additional Training: Creative Coding, Python & Arduino, Machine Learning, HCI and Multimodal Sensing

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Internship Experience

Tesla - Design Quality Engineer (Intern) — **August 2025 – Present**
North Design Studio — **Fremont, California**

- Bridged design intent and manufacturability across Tesla's vehicle and energy products (S/3/X/Y, Semi, Cybertruck, Cybercab and Energy) by leading A-surface reviews. Revealing how texture grain, gloss, and tolerance shifts influence both user perception and production feasibility.
- Standardized appearance specifications by orchestrating AAR reviews across teams in California, Texas, Berlin, and Shanghai, reducing pre-SOP visual quality risk and uncovering how multi-site variability affects cross-regional alignment and decision making speed.
- Audited over 300 plastic, paint, glass, and leather components, aligning engineering, design, and supplier teams on appearance harmony and gloss balance, preventing rework while learning how perceptual thresholds translate into measurable quality frameworks.
- Led critical on-site tooling and molding reviews in Mexico and Canada, running rapid feedback loops to keep parts within design intent tolerances, minimizing production-line stoppage risks and gaining insight into how real-time decisions shape manufacturability at scale.

Volvo Cars - CMF Designer (Intern) — **May 2024 – August 2024**
APAC Design Headquarters — **Shanghai, China**

- Translated sustainability material trend research and Asian consumer insights into CMF vision guidelines for the XC70, EX90, and future concept studies, reinforcing Volvo's brand identity and informing long-term strategy around family-oriented mobility.
- Explored eco-friendly pigments, bio-based coatings, and soft trims, balancing sensory quality and perceived cleanliness while aligning material choices with Volvo's sustainability vision and brand narrative.
- Analyzed visual and tactile signatures across over 50 materials to establish a material-emotion mapping system, translating cross-industry trends (Electronics, Furniture, Fashion) into actionable future design directions, and synthesizing into palette frameworks and CMF storylines.
- Researched cross-industry trend signals to develop three future color directions, collaborating with Interior, Exterior, and UX teams to translate insights into CMF and Ambient lighting concepts for a calm, family-focused Volvo cabin experience.

Mentorship & Leadership

Google — **September 2025 – Present**
Design Mentorship Program (CMF/ID, Packaging) — **Mountain View, California (Hybrid)**

- Selected for a 4-month mentorship with two design mentors, working with a UX designer and a packaging engineer to explore material considerations, manufacturability decisions, and sustainability balancing factors for product.
- Conducted discussions on real packaging case studies, learning how global teams evaluate trade-offs between cost, tooling constraints, visual quality, and recyclability.
- Applied mentorship insights to refine material selection and justification in personal design projects, improving alignment with LCA considerations, recyclability, and sustainability priorities.

ArtCenter College of Design — **May 2024 – Present**
WearLab Club Co-President — **Pasadena, California (Hybrid)**

- Curated and hosted a cross-industry talk series within each semester, connecting alumni and professionals from industry, fostering dialogue on material innovation for the community.
- Organized exhibitions, wearable design workshops, and social media outreach to promote visibility and participation for WearLab as a student design community.
- Built collaboration channels with the Spatial and Interaction Design Department, strengthening student networking and positioning WearLab as an interdisciplinary community for material exploration.

Industry Sponsored Projects

Google **January 2025 – May 2025**
Sponsored AI Workflow Project, Product Designer **Pasadena, California**

- Led an interdisciplinary team to design a system-level AI integrated packaging workflow for Google, leveraging existing AI tools to clarify design intent, accelerate iteration, and strengthen cross-team collaboration.
- Conducted biweekly interviews and workflow mapping to identify issues of inefficiency within the design process; created workflow tools that reduced repeated communication loops and shortened prototyping decision time, improving transparency across the team.
- Delivered a high-fidelity UI and strategic insights to Google design leadership, demonstrating how AI could streamline packaging workflows, improve decision making and elevate cross team creative collaboration.

Dell, Alienware **September 2024 – December 2024**
Sponsored Future Entertainment Project, Industrial Designer **Pasadena, California**

- Directed a cross-disciplinary exploration of Alienware's 5-10 year roadmap, aligning hardware, UX, and ecosystem design strategies through five review sessions with the Dell Design team to envision how technology and user behavior will define the future of entertainment.
- Explored the potential of AR/VR, live-streaming technologies, and mapped end-to-end flows across hardware, software, and service layers while designing a viable live-streaming workflow for emerging faceless streamers.
- Developed CMF language studies, ergonomic mockups, and scenario storyboards, framing how tangible interfaces and material cues can bridge physical and digital immersion.

Research Experience Projects

Service Dog Training System (Product, UIUX, Arduino prototype) **May 2025 – Present**
Advised by Prof. Jiaci Xie (HEBUT) **Tianjin, China (Hybrid)**

- Developed an Arduino-based wearable (Heart rate, motion, vocal cues) and ML pipeline for real-time canine emotion classification in guide-dog training.
- Constructed a proprietary dataset of over 400 labeled samples across 6 dogs and 4 trainers to establish a three-class emotional taxonomy, improving classification accuracy from 42% to 81% via multi-sensor fusion.
- Demonstrated that the prototype enables trainers to detect canine stress more reliably than traditional observation, continue to iterate the system with canine trainers to refine model behavior for real-world use.

Awards

ArtCenter Design Gallery Selected

- Omega Speedsync Drone | September 2024
- Braun Vlog Camera Set | April 2023
- Lufthansa Airline Seats | September 2022
- Composting Cat Litter Box | April 2022
- B&O Speaker Working Prototype | April 2022

A' Design Awards & Competition 2023–2024
Braun Vlog Camera Set

ArtCenter Provost's List，GPA 3.80+, 2023

Skills

Design Research & Strategy
Product definition, User and brand research, Trend synthesis, Material narratives, Color & Finish development, Perception ergonomic visualization, CMF strategy, DFM and Appearance validation

Digital Modeling & Visualization
SolidWorks, Blender, Gravity Sketch, CLO 3D, KeyShot, TouchDesigner, Fusion 360, Rapid CAD iteration, Form and CMF visualization, Rendering and Animation, Photography and Video Editing

Prototyping
3D Printing (FDM+SLA), Laser Cutting, Wood/Metal Fabrication, Pattern Making and Sewing, CNC Machining, Foam Modeling, Spray Paint Finishing, Material Testing

Programming & Creative Tools
Python, Arduino, Edge Impulse (Machine Learning), Multimodal sensing integration, Figma, Adobe Creative Suite, LLM-assisted workflows, Vizcom, Stable Diffusion, Midjourney, Runway