ACADEMIC PORTFOLIO · 2026

Shaw Qin

Design researcher working across human–AI creative agency, culturally grounded generative systems and design education.

RESEARCH TEACHING FORWARD POSITIONING

Creative systems should expand agency while remaining culturally grounded, inspectable and learnable.

AI × DESIGN
CULTURE × COMPUTATION
RESEARCH × EDUCATION

Academic Profile

Designer, researcher and educator working across human–AI co-creation, creative tools and interdisciplinary design education.

PROFILE

I connect experimental AI systems, culturally grounded design research and research-led education.

Research · Teaching · Making

EDUCATION

2017–2024 · PhD in Design

College of Design and Innovation, Tongji University

QS Art & Design subject rank: 18th globally (2025)

2014–2017 · MA in Design

College of Design and Innovation, Tongji University
Bauhaus-Universität Weimar exchange, 2015

2010–2014 · BSc Computer Science and Technology

College of Electronic and Information Engineering, Tongji University

APPOINTMENT & CAPABILITIES

Aug.2024 – Present · Lecturer

College of Fashion and Design, Shanghai International College of Fashion and Innovation (SCF), Donghua University

A Project 211 National Key University in China

Research

Human–AI creativity and cultural AI

Teaching

AI-enabled and technology-enabled design education

Making

Prototyping, datasets, model fine-tuning and open workflows

INTERNATIONAL EXPERIENCE

Bauhaus Exchange

Bauhaus-Universität Weimar · 2015

HAW Hamburg Collaboration

Latent Heritage: Industrial Muse

Bilingual Teaching

English–Chinese course delivery, coordination and professional communication

Research Agenda

A connected research programme moving from creative agency to culturally grounded and learnable AI systems.

How can AI expand creative agency while remaining culturally grounded, transparent and adaptable in practice?

Supporting Creative Agency

Understand evolving intentions without narrowing authorship or replacing creative judgement.

SELECTED PUBLICATIONS

AI for Supporting the Freedom of Drawing (2024)
A State-of-Art Review on Intelligent Systems for Drawing Assisting (2023)
Give Me a Hand: A Scene-Fit Hand Posture Drawing Aid. (2022)

Creative behavior · intention understanding· interaction mechanisms

Doctoral research foundation

Culturally Grounded Generative AI

Represent culturally specific knowledge in datasets, models and evaluation rather than reducing it to visual stereotypes.

Cultural datasets · model fine-tuning · historical authenticity · expert evaluation

Qipao + Latent Heritage

Open & Learnable Creative Systems

Make AI workflows understandable, adaptable and useful across research, practice and education.

Open workflows · AI literacy · curriculum development

Research-to-teaching transfer

Three Cases, One Research Trajectory

Each case advances the same question at a different scale: from understanding individual creators, to grounding models, to transferring cultural knowledge responsibly.

01 · HUMAN-AI CREATIVE AGENCY

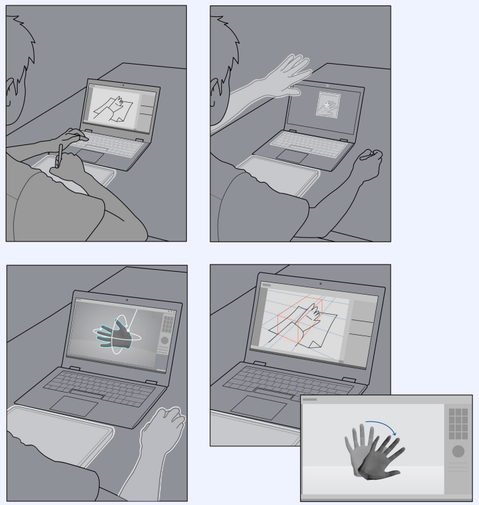
02 · CULTURAL SPECIFICITY

03 · HERITAGE LOGIC

CASE 01 · PP. 5–9

Supporting Creative Agency

Creative behaviour and intention translated into experimental drawing-support tools.

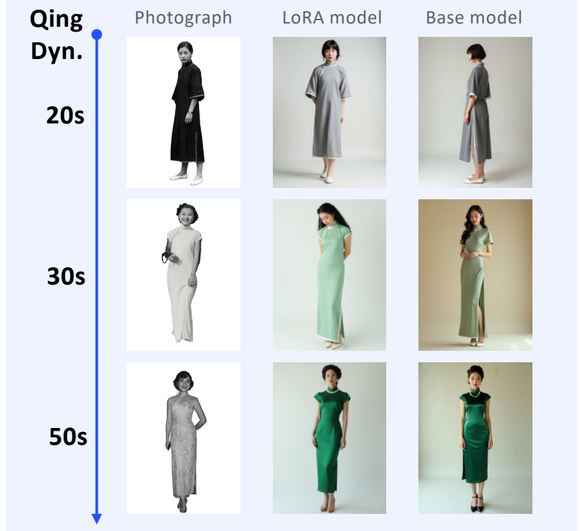


OUTPUT · Intention framework + experimental drawing-support prototype

CASE 02 · PP. 10–12

Teaching AI to Read Historical Form

Era-specific LoRA models improve chronological specificity in qipao generation.

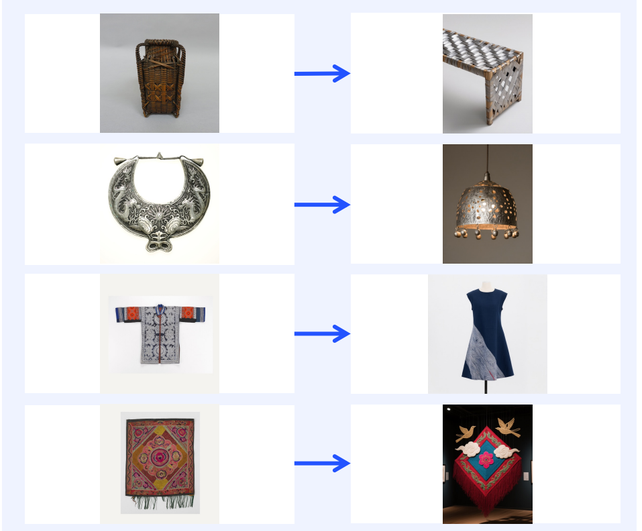


OUTPUT · Archive → era-specific LoRA → base-model comparison

CASE 03 · PP. 13–17

Latent Heritage: Industrial Muse

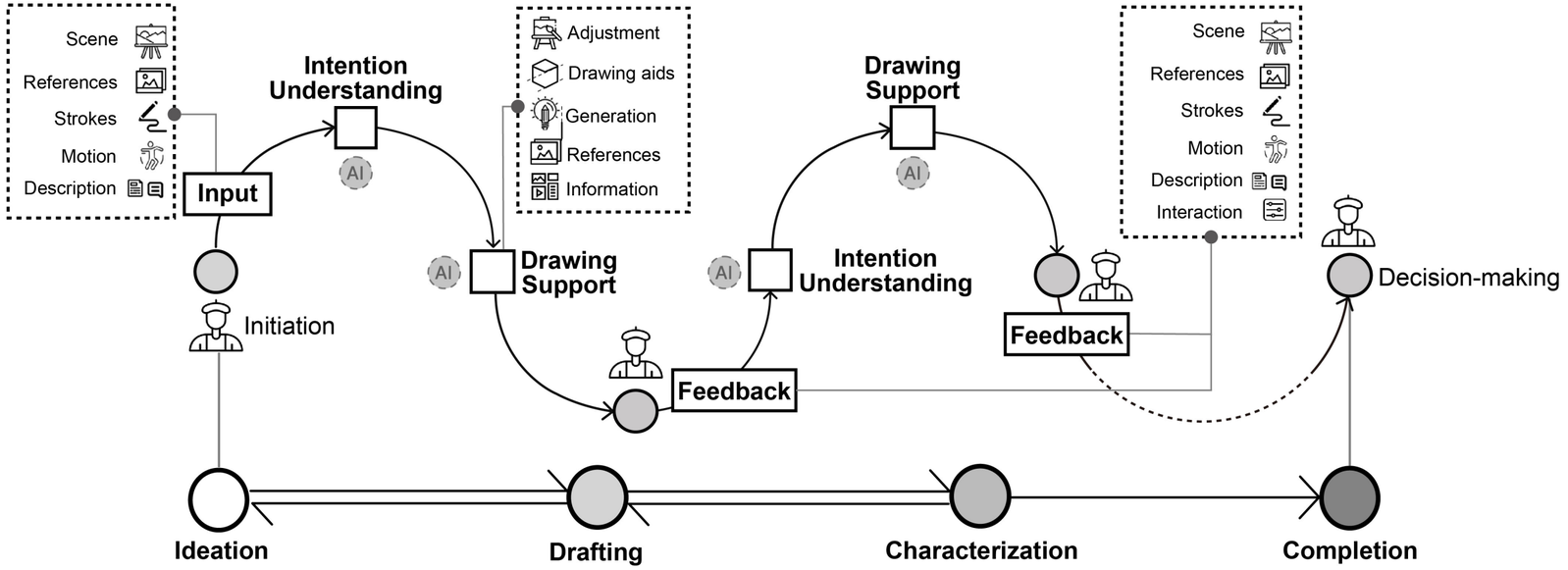
Craft knowledge, open workflows and human curation support heritage-led innovation.



OUTPUT · Craft source → governed generative result

Supporting Creative Agency

AI-based intention understanding and creation support · Doctoral research · 2017–2024



RESEARCH QUESTION

How can AI understand evolving creative intentions and provide useful support—without narrowing authorship or replacing judgement?

My role

Researcher · interaction designer · prototype developer

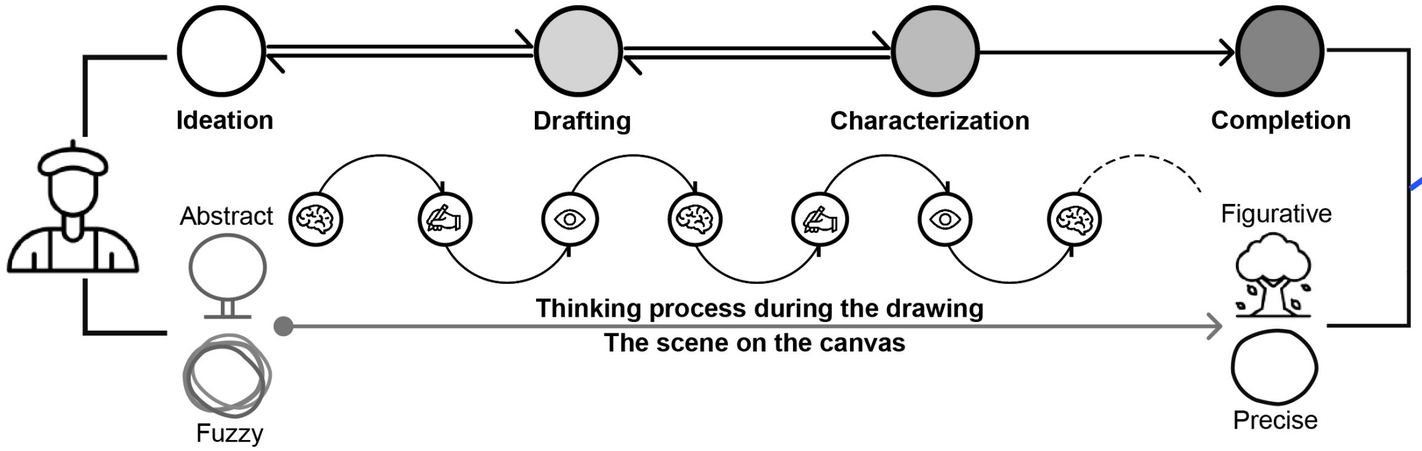
Method chain

Review → user study → creator modelling → experimental tools → framework

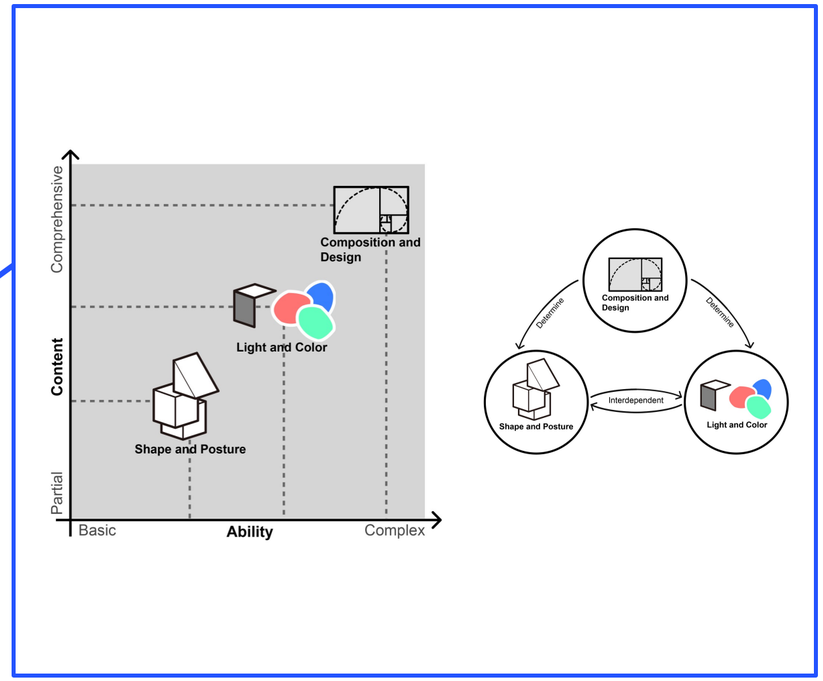
A Model of Creator and Drawing Problems

Creative support becomes actionable when process, content problems, behavior and support conditions are considered together.

01 · CREATIVE PROCESS AS THE PRIMARY LANDSCAPE



02 · PROBLEM MODEL OPENED FROM THE PROCESS



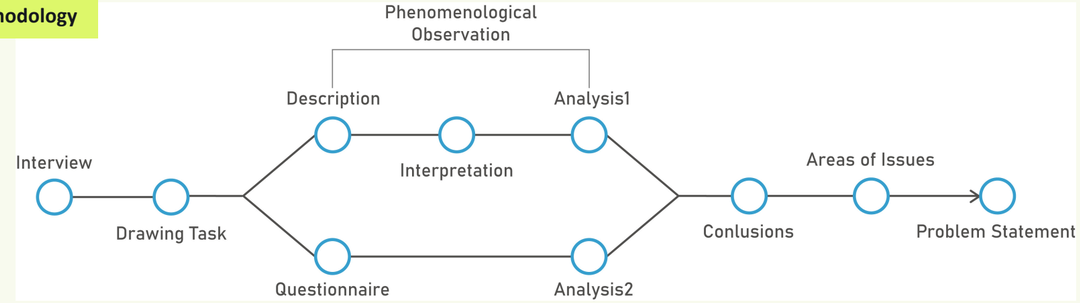
WHAT THE MODEL ESTABLISHES

It connects where a problem occurs in the creative process, what kind of drawing content is involved, and which form of support may be appropriate.

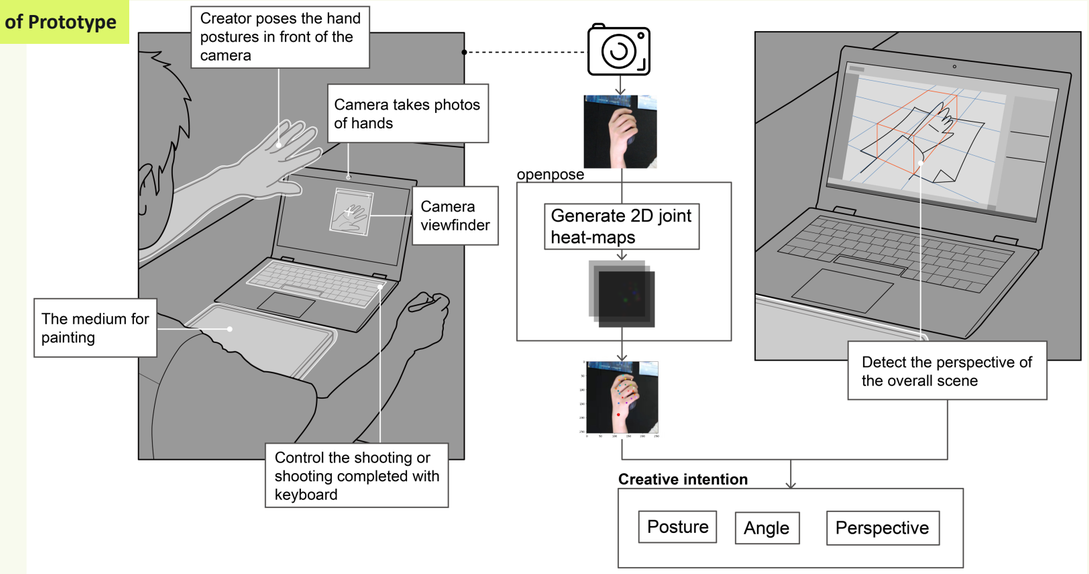
Prototype: Give Me a Hand

A scene-fit hand-posture drawing aid for non-expert creators.

Methodology



Usage of Prototype



PROTOTYPE LOGIC

Scene → intention → adjustable posture support

Problem

Hand anatomy, posture and perspective constrain otherwise viable ideas.

Interaction

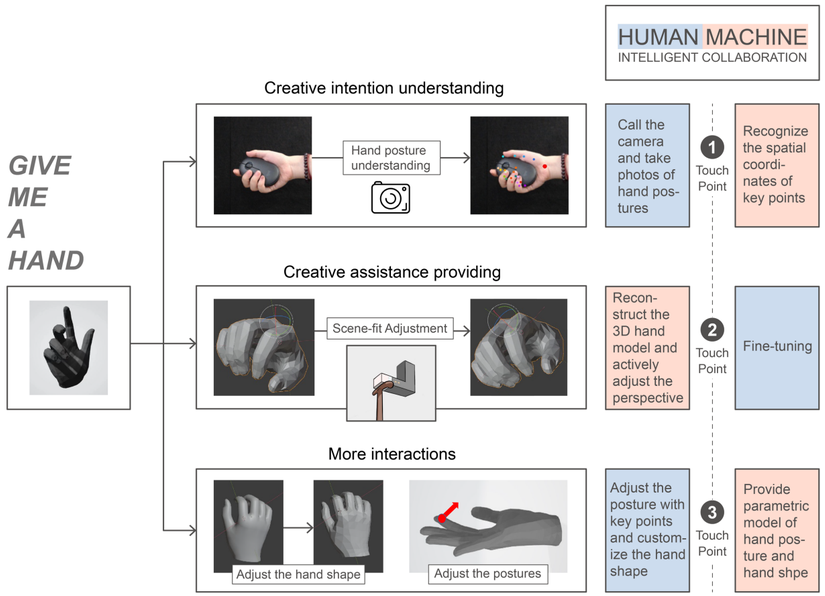
Capture posture and scene perspective → reconstruct a 3D hand → let the creator inspect and adapt it.

Published: Give Me a Hand: A Scene-Fit Hand Posture Drawing Aid, 2022

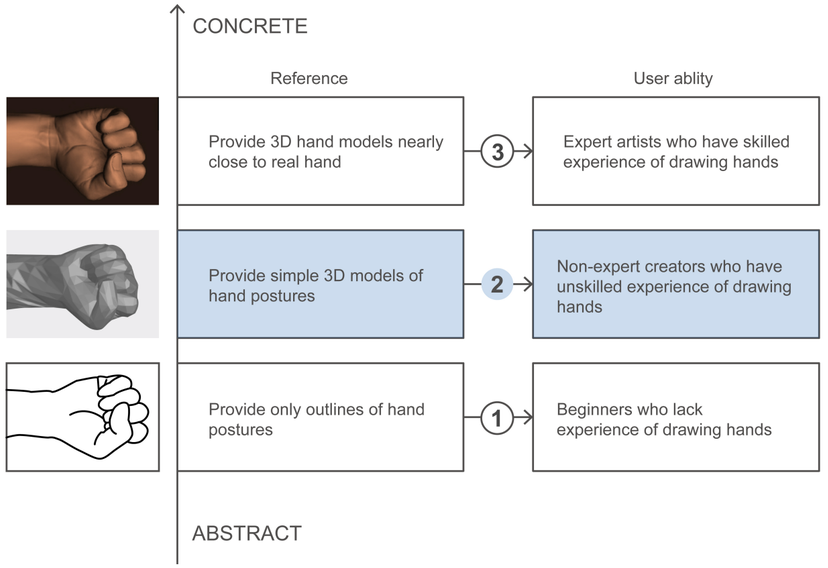
Prototype Learning and Design Findings

The prototype was studied as a collaborative process: express intention, generate support, then select and adapt.

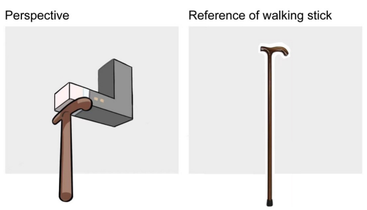
THREE PHASES OF HUMAN–MACHINE COLLABORATION

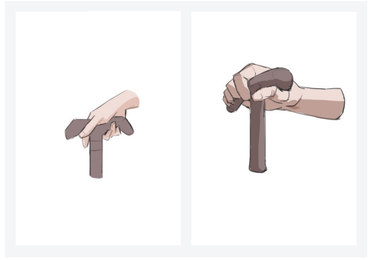


FINDINGS



Assistance should be inspectable, optional and open to revision; the creator remains responsible for selection, adjustment and integration.





Interpretation

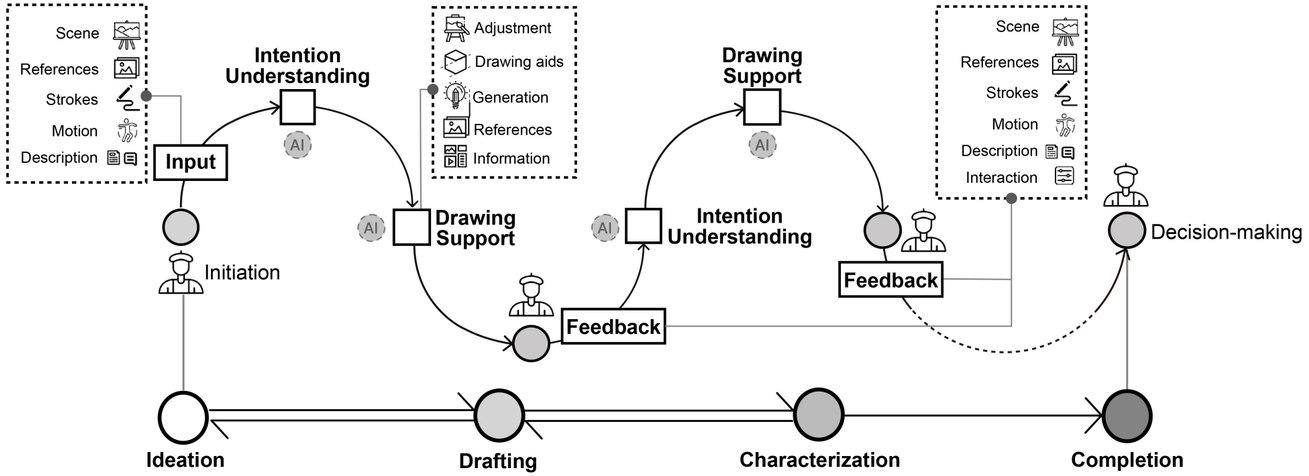
The prototype increases user satisfaction and supports better drawing outcomes, while keeping assistance subject to inspection and revision.

↑ Satisfaction

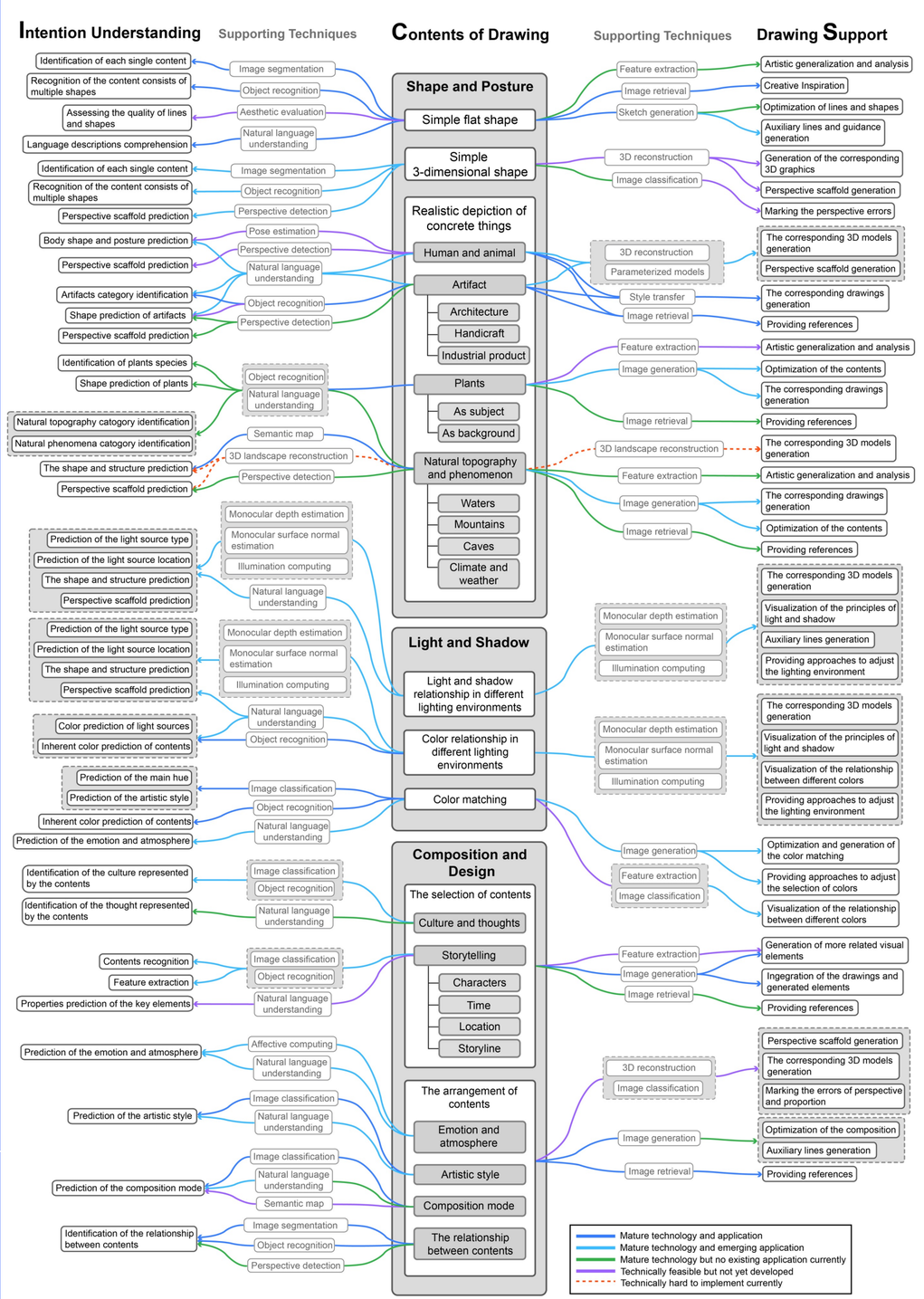
User-study evidence shown as supporting material without overstating generalisability.

From One Prototype to a General Mechanism

The doctoral contribution maps intention understanding to support across a wider range of drawing problems.

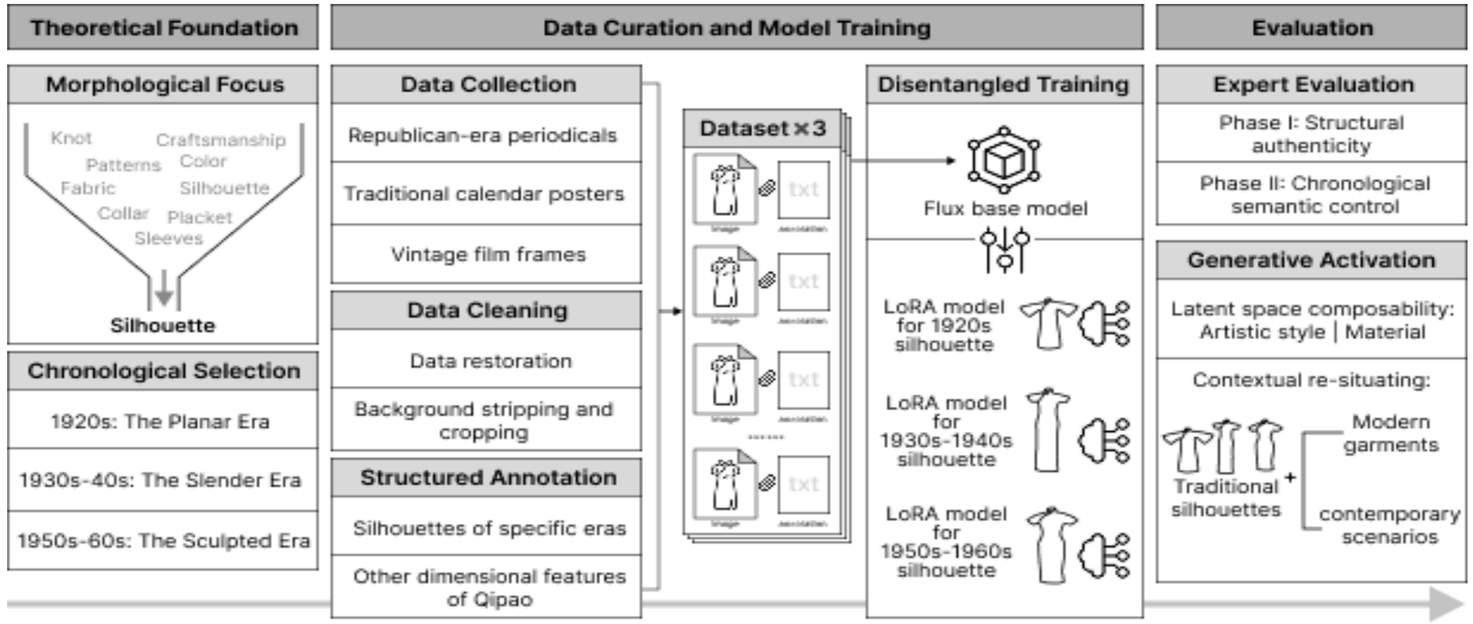


A coded landscape · a creator-and-problem model · experimental prototypes · a transferable mechanism connecting creative intention to support



Teaching AI to Read Historical Form

Digital reconstruction of qipao silhouettes with era-specific LoRA models. Built an era-specific dataset and LoRA pipeline, evaluated for structural authenticity and chronological control.

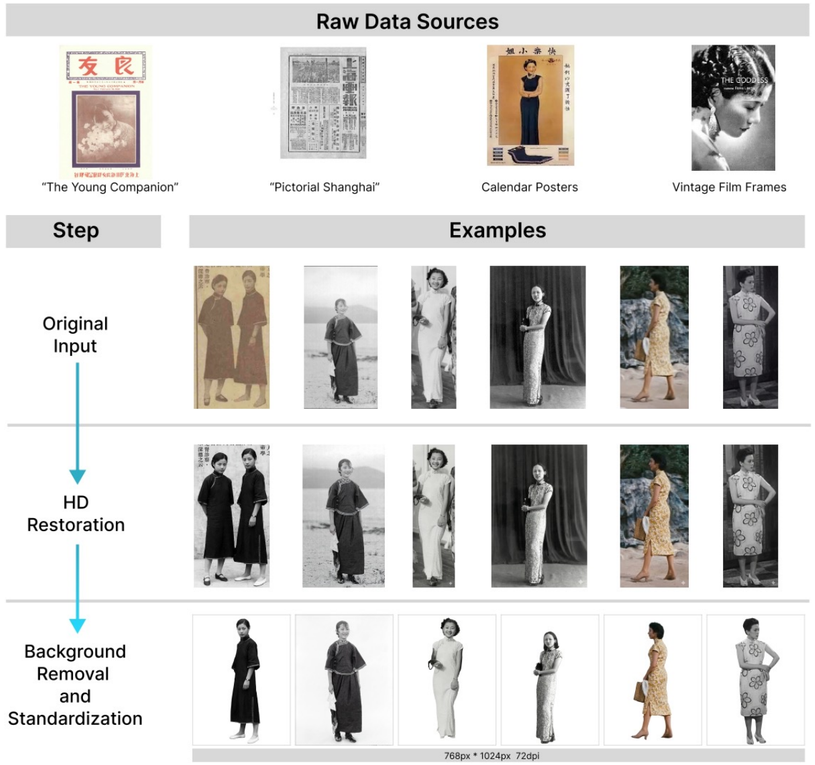


CURATED CHRONOLOGICAL DATASET

188 images · 1920s: 51 · 1930s–1940s: 69 · 1950s–1960s: 68

STRUCTURED ANNOTATION

ERA-SPECIFIC FEATURES + COMMON FEATURES



RESEARCH QUESTION

How can AI image models learn the historical evolution of qipao silhouettes—and support culturally grounded reinterpretation rather than flattening them into stereotypes?

MY ROLE

Researcher · dataset curation · LoRA fine-tuning

Fine-tuning Improves Chronological Control

Identical prompts reveal what era-specific models add beyond the general FLUX base model.

Flux + LoRA

1920s qipao, loose fitting, wide sleeves

1930s qipao, form fitting, floor-length dress

1950s qipao, waist fitting, hourglass figure

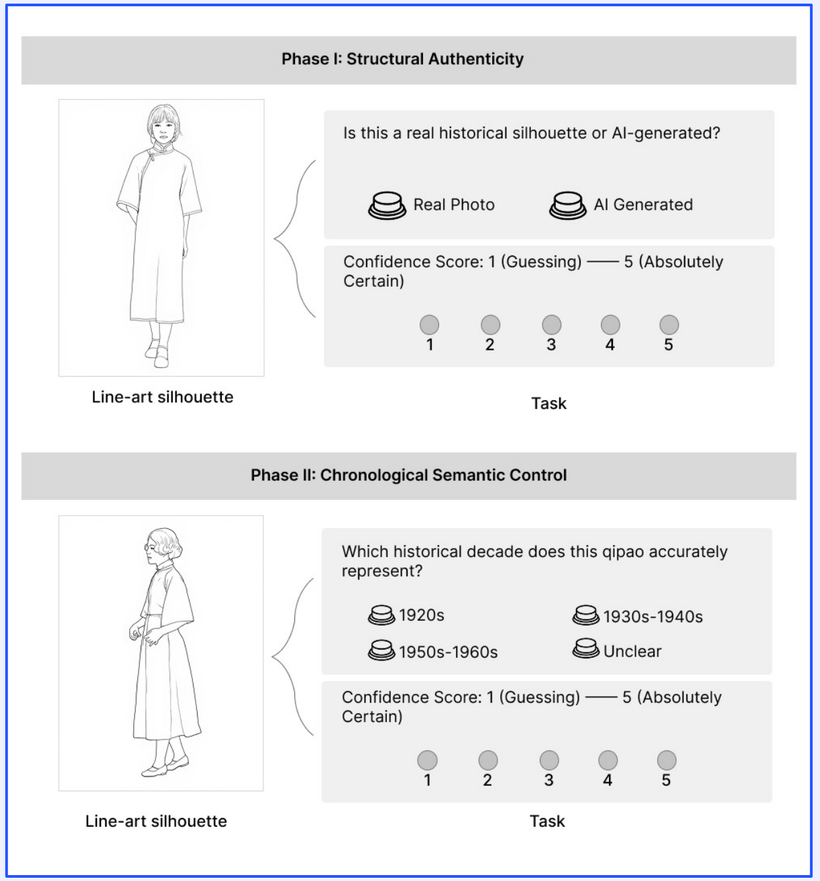
Flux Base Model

1920s qipao, loose fitting, wide sleeves

1930s qipao, form fitting, floor-length dress

1950s qipao, waist fitting, hourglass figure

2-Phase Expert Evaluation



40.3%

Base-model chronological accuracy

70.8%

Era-specific LoRA accuracy

κ .784

Expert agreement after fine-tuning

Activation and the Boundary of Visual Learning

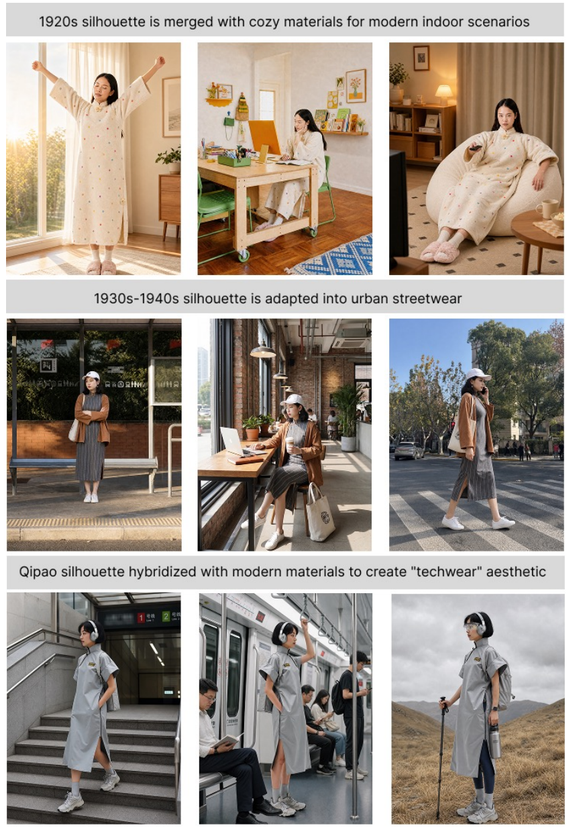
Historical silhouettes transfer across styles, materials and contemporary settings, but visual fidelity is not construction knowledge.

ACTIVATION 01

STYLE + MATERIAL REPLACEMENT

ACTIVATION 02

RECONTEXTUALIZATION



RESEARCH BOUNDARY

Visual control ≠ cultural or physical understanding

The LoRAs control macro silhouette, yet do not reliably encode closure rules, cutting logic, fabric mechanics or three-dimensional construction.

These outputs support exploration and speculative prototyping—not manufacturing blueprints.

Latent Heritage: Industrial Muse

Transfer functional logic—not decorative motif. An instrumented AI pipeline for transferring Chinese craft logic into new design directions.

RESEARCH QUESTION

What new design possibilities emerge when AI learns how Chinese crafts work—not merely how they look?

MY ROLE

Researcher · AI workflow designer · LoRA fine-tuning · generative experiments

COLLABORATION

Prof. Peter Kabel — HAW Hamburg
Aimee Zhang — Donghua University

PROJECT LOGIC

Latent Heritage studies around thirty Chinese crafts—from bamboo weaving to Miao silverwork—as operational grammars: folding, weaving, locking and suspension. These principles enter an AI image system through four controlled channels—material, structure, form and language—to produce unfamiliar designs without decorative clichés. Every source image, dataset and generation run remains traceable, grounding experimentation in provenance and respect for craft communities.

A Governed Knowledge Foundation

Craft knowledge enters the pipeline through a traceable corpus, curated training sets and registered experiments.

2,170+

corpus images ingested; source and licence logged per item

30

crafts catalogued by functional logic

8+

LoRA training runs across four craft instruments

24

grammar sketch sheets, versioned and registered

IN USE · 2	bamboo open weave · Miao batik
TRAINED · 2	Miao embroidery · Miao silver
IN PREPARATION · 2	papercut · next textile sets
CATALOGUED · 30	the full craft corpus

EVERY NEW CRAFT

enters by the same route: corpus → curated set → LoRA + grammar maps → registered runs.

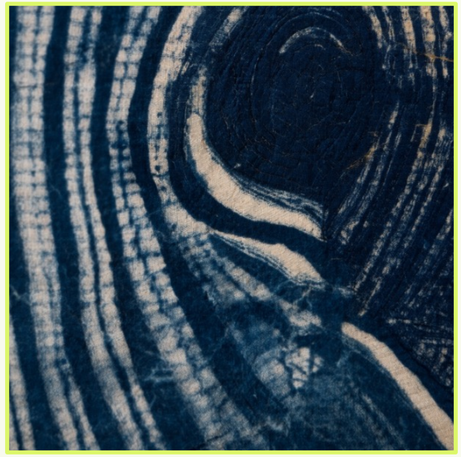
EVERY IMAGE

carries source, licence and provenance. Taking origins seriously is part of the method.

Four Controlled Input Channels

Three channels become real instruments; only the prompt stays a prompt.

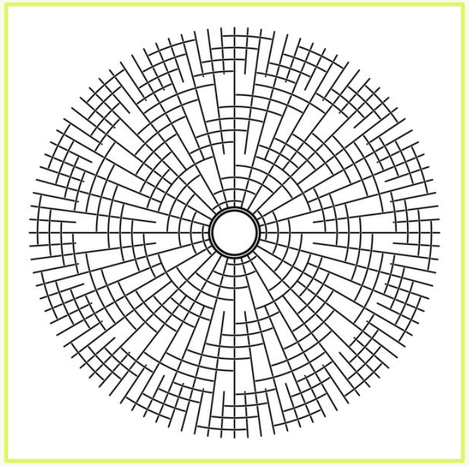
CH1 · MATERIAL



trained LoRA · signature, relief, grounding

LIVE INSTRUMENT

CH2 · STRUCTURE



grammar sketch + ControlNet · construction logic

FIRST RUN

CH3 · FORM

target silhouette / depth · object constraint

IN BUILD

CH4 · PROMPT

```
{ "id": 2,
  "positive":
  "sculptural
  evening dress,
  bamboo strips,
  hexagonal open
  weave → radial
  at the hem..." }
```

structured concept brief · binds the roles

LIVE INPUT

SYNTHESIS · ONE GENERATION RUN → A NEW, UNSEEN OBJECT

The Instrument, Visible. CH1

Same seed, same brief—the material and structural instruments reveal what actually changes.

ONE CONTROLLED COMPARISON

Surface application vs. structural instrument

The baseline applies a surface lattice; the instrument builds lashed joints and load paths.

APPLIED · LATTICE SITS ON THE PANEL

LoRA off · strength 0.0

BUILT · LASHED JOINTS, LOAD PATHS

LoRA on · strength 1.0

ONE PIPELINE, THREE INSTRUMENTS

The heavy channel shifts per craft— and sometimes reshapes the object.

MATERIAL-HEAVY

MIAO EMBROIDERY LoRA 0.7

The LoRA carries stitch relief and the signature palette.

EMERGENT FORM

MIAO BATIK LoRA 0.7

The seat’s layering was never in the brief; an echo of Miao stacked textiles.

STRUCTURE-HEAVY

BAMBOO → STEEL LoRA 0.8

The lattice survives a full material swap into stainless steel.

One map changes. The object responds. CH2

sketchlib maps condition ControlNet on the open-weaving LoRA—channels 01+02+04 in one pass. The flat map paints its pattern and the vessel disappears; the same chevron, pre-projected, bends around the wall. On the tray, structure starts to build the object. One motif per map, one seed—a first test, not a proof.

01 · BASELINE — 02 · FLAT CONDITION — 03 · PRE-PROJECTED — 04 · FORM EMERGES

MAP OFF · BASELINE

FLAT MAP · STRENGTH 0.7

PRE-PROJECTED · STRENGTH 0.7

PRE-PROJECTED · STRENGTH 0.4

RESEARCH SYNTHESIS

From Material Transfer to Responsible Innovation

The experiments open design directions while clarifying what must remain human, governed and culturally situated.

Next research phase

- Complete structure and form channels
- Run Chinese–Western reception study
- Develop pairwise human curation
- Formalise cultural-advisory review
- Complete publication-grade licence audit

Teaching through Purposeful Making

One teaching strategy, tested through two materially different cases: physical interaction and generative fashion workflows.

01 · PURPOSE

Start with a meaningful problem

Technology becomes learnable when it is attached to a disciplinary purpose, a real audience and an accountable outcome.

02 · SCAFFOLD

Introduce complexity when it becomes useful

Conceptual entry points and technical support arrive in response to a developing design proposition.

03 · MAKE

Keep multiple implementation paths open

Students can build independently, collaborate with technical partners or transfer concepts into another course.

04 · JUDGE

Connect prototyping to public reflection

Critique, deployment and external review turn technical output into informed design judgement.

LEARNING INTERVENTIONS

COURSE DESIGN	LECTURES · IN CAMPUS	SITE VISITS · OFF CAMPUS	ITERATIVE CRITIQUE

CASE 01 VISUAL MERCHANDISING· PP. 19–22

Technology-Enabled Visual Merchandising

A real brand brief becomes a vehicle for learning sensors, actuators, physical interaction and public deployment.

PHYSICAL SYSTEMS →

CASE 02 AIGC DESIGN THINKING· PP. 23–27

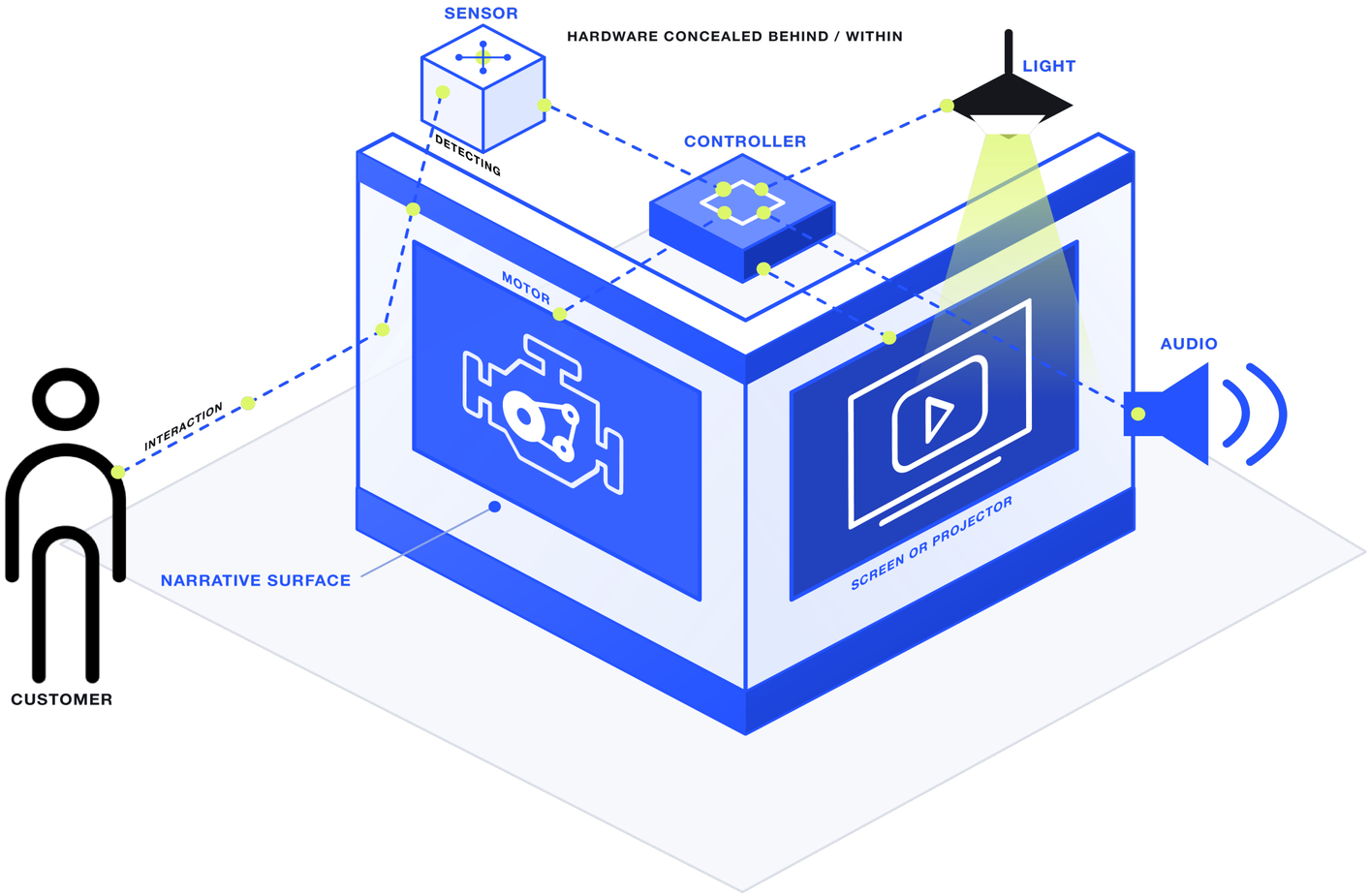
AIGC Design Thinking

From open-source tool literacy and model selection to controllable generation, LoRA fine-tuning and an integrated design proposition.

GENERATIVE SYSTEMS →

Technology-enabled Visual Merchandising

A live industry brief became the vehicle for teaching physical interaction to design students with no coding background.



COURSE CONTEXT

32 Year-2 Fashion Interior Design students · 5 teams

VISUAL MERCHANDISING 1

Donghua University × Coach Shanghai Limited · Spring 2025

University-funded teaching-development project

University project lead · Shaw Qin

MY ROLE

Project lead · interaction-technology instruction · tutorials

COLLABORATION

Francy — course organizer

TEACHING CHALLENGE

Connect spatial storytelling with sensors, actuators, interaction logic and physical deployment—without turning the course into an engineering module.

Inside the Visual Merchandising Studio

The shared teaching principles become a course-specific sequence: brand framing, interaction design, differentiated making and public deployment.

01 **Frame the experience**

Read the brand brief, audience and site; translate commercial requirements into design concepts.

02 **Design the interaction**

Move from static display concepts to an input → processing → output logic tied to the emerging spatial narrative.

03 **Choose a making path**

Two teams fabricated independently; three collaborated with technical partners while retaining design responsibility.

04 **Deploy and reflect**

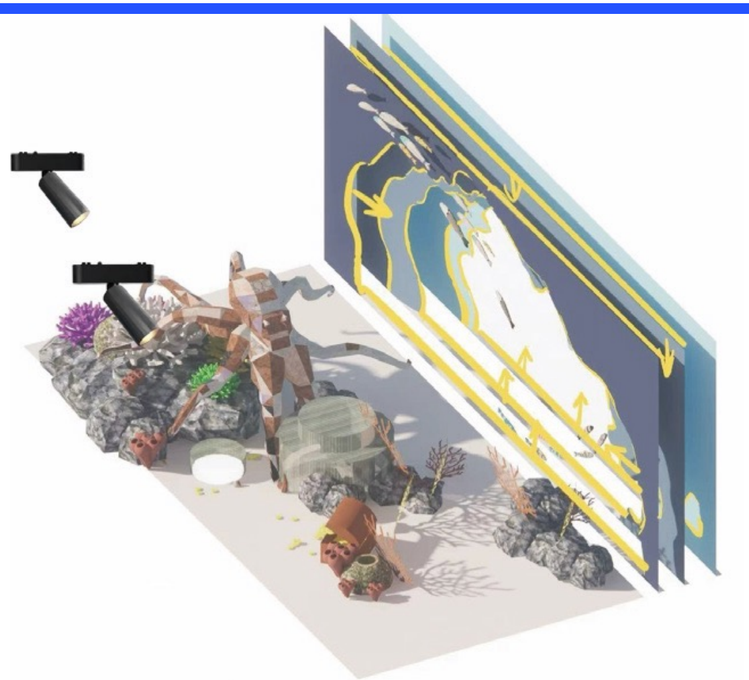
Prototype, public display, brand review and situated evaluation expose both technical and experiential consequences.

ON-DEMAND TECHNICAL SUPPORT Arduino UNO · sensors · actuators · circuit topology · control code · technical documentation

Technical complexity follows the proposal—not the timetable.

Five Teams, Five Deployable Directions

Every team passed brand review and progressed from concept to physical interactive-window development.

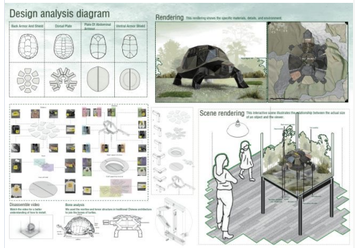


01 · RESPONSIVE LIGHT

Millennium Hai Cuo Tu

Distance sensing → responsive RGB lighting

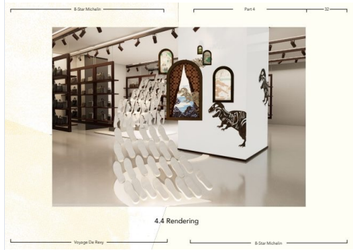
02 · KINETIC OBJECT



Nature Journey

Touch/pressure input → servo-driven turtle movement

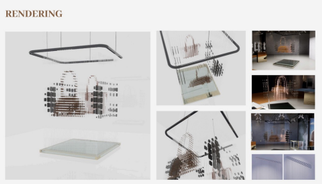
03 · SHADOW NARRATIVE



Voyage de Rexy

Infrared sensing → animated shadow-puppet scene

04 · SONIC INTERACTION



Flow

Distance sensing → plucking experience & melody playing

05 · RESPONSIVE FURNITURE

Spring with Life

Pressure input → responsive RGB lighting

5 / 5

passed brand review

2 self-built + 3 collaborative fabrication paths · all built interactive prototype

Evidence, Recognition and Reflection

Recognition operated at two connected levels: the partnership acknowledged teaching leadership, while the students' work was recognised through an Outstanding Work award.

01 · TEACHING RECOGNITION

Outstanding Instructor

The university–industry collaboration recognized the project tutors for guiding the students from concept development to public presentation.

02 · STUDENT RECOGNITION

Outstanding Work

Millennium Hai Cuo Tu received an Outstanding Work certificate in the DHU × Coach project.

EVIDENCE AND REFLECTION

OUTPUTS

Five interactive-window prototypes · teaching text + digital interaction tutorial · student case collection

NEXT ITERATION

Cross-school teaching · tiered technical assessment · stronger pre/post evaluation · deeper engineering support

AIGC Design Thinking

AI expands the design space. Design thinking decides what deserves to move forward.

COURSE CONTEXT

Core bridge course in an AIGC Fashion Innovation sequence

COHORT

10 design undergraduates

DURATION

32 hours

MY ROLE

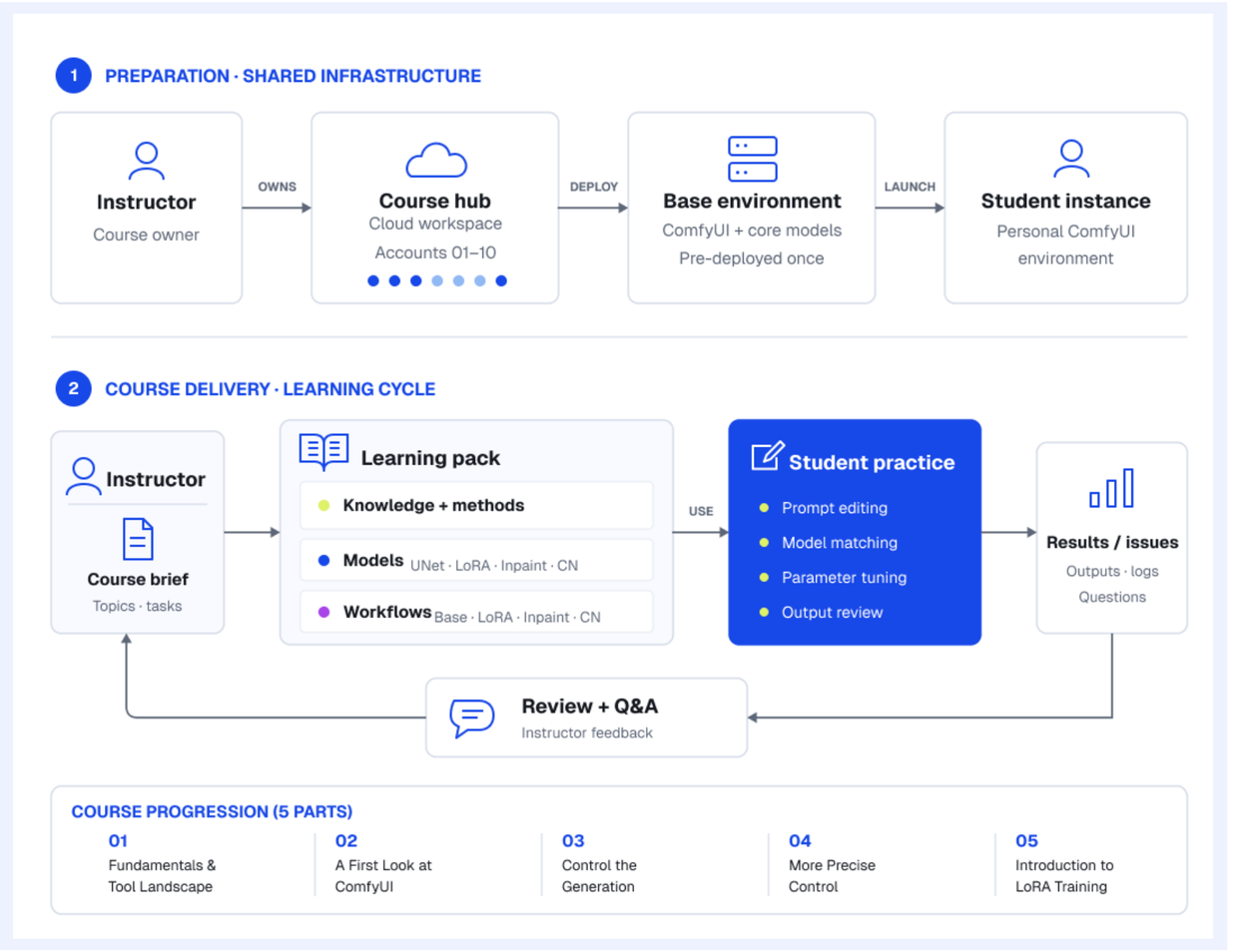
Course design · full teaching delivery

COLLABORATION

Peter Kabel — Guest expert

TEACHING POSITIONING

Students first use AI to explore broadly without prematurely filtering ideas for feasibility. They then shift from generation to curation, critique and controlled refinement—using professional judgement to determine which possibilities are worth developing and how they can become credible design propositions.



AIGC Fashion Innovation Sequence

Three courses share one innovative-qipao theme, allowing methods, visual concepts and making outcomes to flow across the semester.

COURSE 01 · ORIENTATION

AIGC Fundamental & Trend

Map the ecosystem · frame opportunities, limits and ethics

COURSE 02 · LED BY SHAW QIN

CORE BRIDGE COURSE

AIGC Design Thinking

Turns broad AIGC awareness into controllable visual workflows and a resolved design proposition.

32	10	1
HOURS	STUDENTS	PROPOSAL / GROUP

Open-tool literacy → model adaptation → controllable generation → integrated innovative-qipao proposal

COURSE 03 · REALISATION

Fashion Innovation Workshop

Carry the Course 02 proposal into hands-on physical or digital development

Awareness → Controllable exploration → Physical / digital realisation

From Generating Possibilities to Judging What Is Worth Making

AI-GENERATED ABUNDANCE Breadth first → **DESIGNER JUDGEMENT + CONTROL** Increases toward realisation

01 | EXPLORE

Expand the possibility space

Use AI's low-cost visual abundance to generate many directions before judging feasibility.

Suspend judgement.

BREADTH · VARIATION · VISUALISATION

02 | CURATE

Select what deserves attention

Read the generated field as a curator: identify ideas that respond to the design brief and contain genuine development potential.

RELEVANCE · POTENTIAL · SELECTION

03 | CRITIQUE

Test the image against reality

Judge AI proposals through disciplinary knowledge rather than visual appeal alone.

Does the fabric behave credibly?

Can the material form this structure?

Could the geometry actually support itself?

PLAUSIBILITY · MATERIAL LOGIC · DISCIPLINARY JUDGEMENT

04 | REFINE

Correct what AI gets wrong

Use professional judgement to retain useful ideas while correcting form, material logic, proportion and construction.

Retain what matters ·
correct what fails ·
resolve what can develop

EDIT · CONSTRAIN · RESOLVE

05 | REALISE

Turn potential into a controllable proposition

Use controllable generation workflows to translate selected ideas into increasingly resolved design proposals.

CONTROLLED TOOLS

ControlNet · Inpainting · LoRAs · Image-to-image · Custom workflows

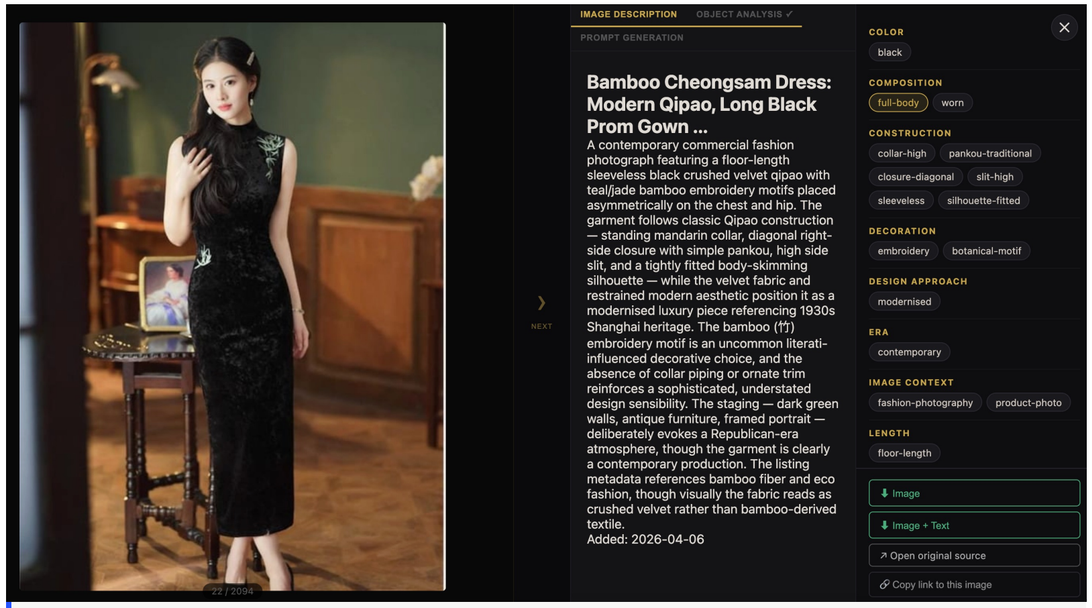
AI CONTRIBUTES BREADTH → DESIGNER JUDGEMENT DIRECTS REALISATION

DIVERGENCE | SELECTION | JUDGEMENT | REFINEMENT | REALISATION

Part 1	Part 2	Part 3	Part 4	Part 5
Tool Landscape	**First ComfyUI Workflow**	**Model Selection & Control**	**Precise Intervention**	**LoRA Fine-tuning Foundations**
Diffusion foundations + open-model ecosystem	Nodes, parameters, execution + debugging	Prompt construction + LoRA/model selection	Image-to-image + ControlNet + inpainting	Dataset curation + introductory LoRA training

Expert Input and Research Assets

The course combined external expertise, structured visual references and research-derived models so that generation could be judged against cultural, formal and historical knowledge rather than visual novelty alone.

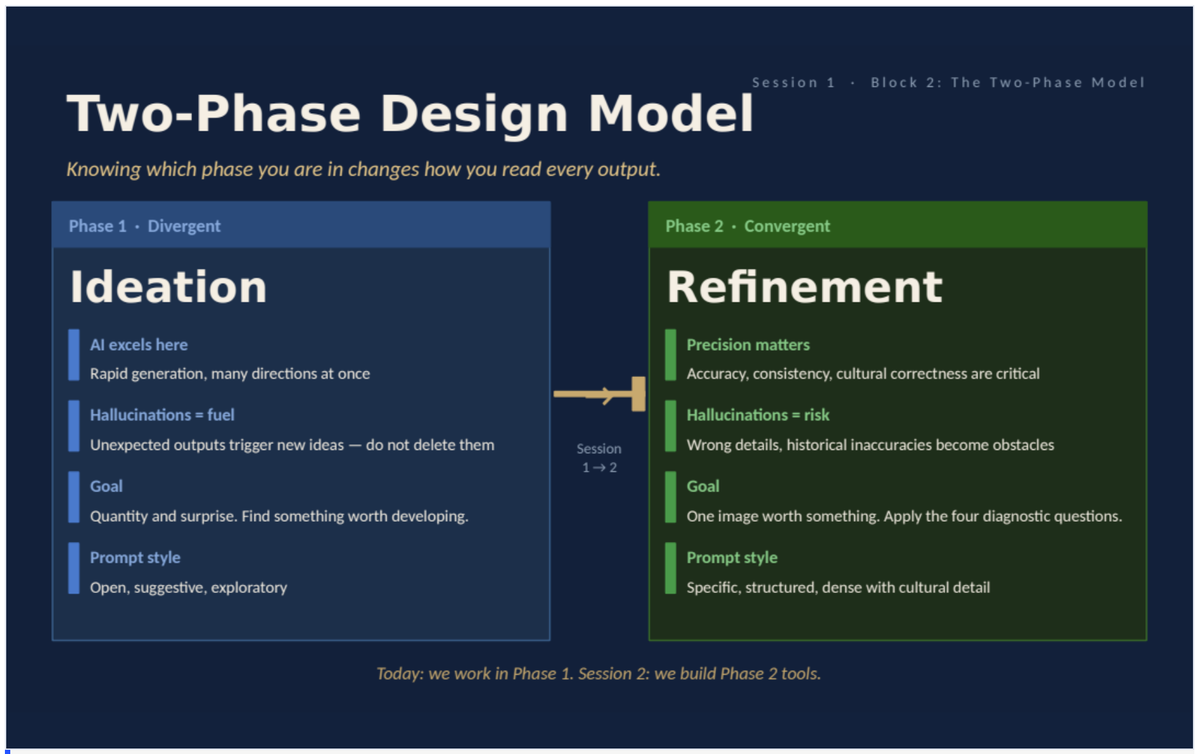


QIPAO RESEARCH DATABASE

A searchable qipao image database · structured reference · generated descriptions and object analysis

HISTORICAL SILHOUETTE LORAS

experimentation · comparison · refinement

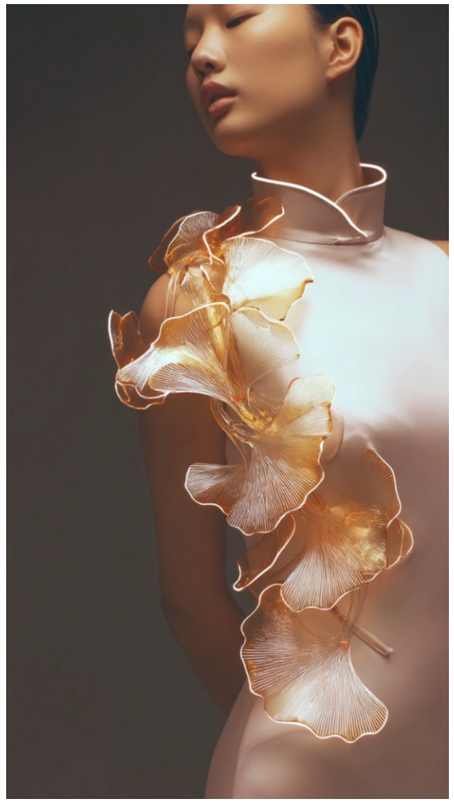


INTERNATIONAL GUEST INPUT

Prof. Peter Kabel, HAW Hamburg: designer agency in the AI era, two-phase design thinking, and control strength as a creative decision.

Student Visual Proposals from AIGC Design Thinking

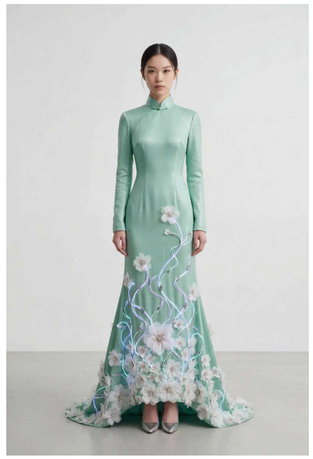
Interim concepts developed through controllable generation; each direction is currently in fabrication into a physical outcome in the subsequent course.



STUDENT PROPOSAL 01

Sculptural Bloom

Reframes qipao beauty through sculptural volume and tension. Light and shadow, opening and closure, unfold like a flower in bloom.



STUDENT PROPOSAL 02

Living Bloom

Makes vitality and emotion visible through cool violet light, mint green and white florals. Light traces the vines, turning a formal gown into a breathing, growing surface.

STUDENT PROPOSAL 03

Breaking the Frame

Explores female agency through sharp 3D-printed skeletal forms that appear to pierce the qipao from within. Distressed yarn wraps the structure, intensifying rupture and emergence.

Bilingual Coordination across a Four-Year Programme

At Shanghai International College of Fashion and Innovation (SCF), College of Fashion and Design, Donghua University, a joint-education programme between Donghua University and the University of Edinburgh. I connect academic coordination with bilingual, studio-level teaching support.

INTERIOR DESIGN PROGRAMME

YEAR COORDINATOR

Coordinate timetables and course arrangements
Communicate with Edinburgh academic staff
Archive briefs, teaching materials and records

TEACHING ASSISTANT · YEARS 1–4

Bilingual studio communication, class support and continuity across the joint curriculum.

COURSES SUPPORTED

	AUTUMN	SPRING
YEAR 1	**Beyond the Frame**	**Pop-up Shop Design**
YEAR 2	**Material Reimagined Project**	**Small Branded Space Design**
YEAR 3	**Atelier Design**	—
YEAR 4	**Graduation Project: Outline Design**	**Graduation Project: Detail Design**

COURSES LED · ENGLISH-LED BILINGUAL DELIVERY

Fashion Interior Design BFA · SCF

YEAR 1 · AUTUMN

Digital Design Studio

48 HOURS

YEAR 2 · SPRING

Professional Investigation

16 HOURS

YEAR 3 · AUTUMN

From Trend to Design Idea

32 HOURS · INDUSTRY-EXPERT COLLABORATION

ACADEMIC SERVICE · College 10th-anniversary exhibition: exhibit selection, information review, installation and liaison with the exhibition designer/curator.

Future Contribution

I aim to connect research, design education and emerging technologies while keeping disciplinary judgement, making and human agency at the centre.

GUIDING QUESTION

How can design education preserve core capabilities while preparing students to work critically with emerging technologies?

RESEARCH PROGRAMME

Human agency, cultural grounding and responsible technology

Human–AI creative agency
Culturally grounded generative systems
Responsible emerging technologies
Open and traceable research workflows

CURRICULUM CONTRIBUTION

Develop core capabilities alongside technological fluency

Core design skills and disciplinary judgement
Critical and responsible AI literacy
Assessment that distinguishes independent capability from tool-assisted work
Creative coding, physical computing and interaction prototyping
Research-led project teaching

COLLABORATION & IMPACT

Connect disciplines, institutions and modes of making

Design × computer science
Physical computing and interactive systems
International research and teaching
Cultural and industry collaboration