

# A Study on the Innovative Integration of Traditional Hezhe Patterns into Modern Jackets

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**Abstract:** This paper explores innovative approaches to integrating traditional Hezhe patterns with modern jacket design, establishing a design methodology that blends cultural heritage with contemporary fashion expression, and providing theoretical support and design examples for the dynamic transformation of ethnic cultural heritage. Through literature review and field research, this study systematically categorizes the types, symbolic meanings, craftsmanship characteristics, and color systems of typical Hezhe patterns. Using modern jackets as a medium, it proposes innovative strategies across four dimensions: pattern extraction, material pairing, craftsmanship integration, and color reconstruction. Traditional Hezhe patterns primarily include natural motifs (such as swirling clouds and waves), animal totems (such as fish and deer), and geometric decorative patterns (such as fish scales and swastikas). These patterns all possess a high degree of graphic flexibility and symbolic recognizability; Through integration with functional fabrics, digital printing, three-dimensional embroidery, and laser-cut techniques, these patterns have been successfully transformed into visual focal points on jackets. These innovative designs satisfy the aesthetic and wearability needs of contemporary consumers while preserving cultural authenticity. The fusion of Hezhe traditional patterns with jacket design not only expands the pathways for the living transmission of ethnic cultural heritage but also provides a viable model for differentiated design in the apparel industry. Future research could further explore the application of digital technologies and pathways for IP commercialization.

**Keywords:** Hezhe people; traditional patterns; jacket design

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## 1. Introduction

The Hezhe people are one of China's smaller ethnic minorities. They have lived for generations in the basins of the Heilongjiang, Songhua, and Ussuri rivers, subsisting on fishing and hunting, and boast a history of over 6,000 years and a unique fishing and hunting culture. Their distinctive natural environment and way of life gave rise to the world-renowned craft of making "fish-skin garments"—in 2006, the Hezhe fish-skin craftsmanship was included in the first batch of the National List of Intangible Cultural Heritage [1]. The patterns on fish-skin garments are simple yet elegant, with meticulously crafted compositions, embodying the Hezhe people's aesthetic values, reverence for nature, and wisdom for survival. The motifs are largely inspired by river waves, swimming fish, flying birds, mountain deer, and trees, as well as fishing nets, boats, and other tools of production. Through abstraction, transformation, and

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combination, these elements form a highly rhythmic decorative language. However, with the acceleration of modernization and changes in traditional lifestyles, Hezhe fish-skin clothing and its patterns face severe challenges, including an aging population of inheritors and a shrinking scope of application. In recent years, driven by the national strategy to build a cultural powerhouse and policies for the protection of intangible cultural heritage, traditional Hezhe patterns have gradually moved from museum display cases into the realm of modern design, showing initial vitality in fields such as cultural and creative products and tourist souvenirs[2]. Nevertheless, existing research has largely focused on the semiotic interpretation of these patterns or the development of cultural and creative derivatives in a broad sense. Discussions regarding the systematic design transformation of these patterns within specific garment categories—particularly jackets—remain insufficient, and there is a lack of comprehensive design methodologies tailored to the specific medium of the jacket.

The term “jacket” as discussed in this paper primarily refers to two categories of modern, popular jackets: urban functional styles and casual workwear styles. With their clearly defined structural divisions and highly versatile styles, these jackets serve as an ideal medium for pattern layout and craftsmanship innovation. As a garment that combines functionality with fashion, the jacket boasts a broad consumer base and a diverse stylistic spectrum worldwide. Its clear structure and abundant seam lines provide an ideal medium for pattern layout and craftsmanship. Integrating traditional Hezhe ethnic patterns into jacket design not only demonstrates cultural confidence but also infuses contemporary fashion with a unique Eastern aesthetic, while endowing the jacket with cultural narrative and spiritual value. This paper innovatively proposes a four-pronged design strategy of “pattern extraction—material pairing—craft integration—color reconstruction,” filling a gap in existing research regarding systematic transformation methods for the jacket category. This research direction resonates with the current “national trend” consumer movement and the rise of ethnic fashion in the contemporary context, holding significant theoretical significance and practical value. From a design studies perspective, this paper comprehensively employs methods such as literature analysis, field research, and user surveys to systematically examine the cultural connotations and formal characteristics of typical Hezhe ethnic patterns. It then proposes strategies and methods for their innovative integration into jackets, validated through practical design cases, with the aim of providing theoretical and practical references for the modern application of ethnic patterns.

## **2. Analysis of the Cultural Symbol System and Design Elements of Traditional Hezhe Patterns**

### *2.1 Natural Scenery Motifs: An Artistic Condensation of Fishing and Hunting Environments*

Natural motifs primarily include swirling cloud patterns, wave patterns, diamond patterns, and ice-crack patterns, which are often used to decorate the lapels, cuffs, and hems of garments. Cloud scroll patterns are formed by continuous, curving arcs, with an expansive form symbolizing auspicious clouds and auspicious energy; wave patterns use parallel or intersecting wavy lines to mimic the undulating river, expressing wishes for safe fishing and hunting and a bountiful catch; diamond patterns, derived from the

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mesh structure of fishing nets, embody a sense of orderly beauty.

### *2.2 Animal Totem Patterns: Symbolic Expressions of Religious Worship*

Animal totem patterns include fish, deer, bear, tiger, and bird motifs, reflecting the Hezhe ancestors' reverence and worship for the creatures they hunted and fished. Among these, fish motifs are the most common, often appearing as side-view silhouettes or patterns of scales, symbolizing the tribe's identity as hunters and fishermen and the vitality of life. Deer motifs, on the other hand, are frequently found on shamanic robes or ceremonial attire, carrying connotations of spiritual communication and blessings.

### *2.3 Geometric Ornamental Patterns: An Abstract Interpretation of Natural Textures*

Geometric decorative patterns—such as meander motifs, spiral patterns, fish-scale patterns, and nipple-like motifs—draw inspiration from the natural textures of fish skin, the carved marks on birch bark vessels, and abstract interpretations of woven structures. The fish-scale pattern, with its repeating semicircular or diamond-shaped units, creates a delicate textural effect and is one of the most recognizable symbols in Hezhe ethnic patterns.

In terms of formal characteristics, Hezhe patterns are primarily linear in form, emphasizing symmetry, balance, and rhythm. The color palette is simple yet elegant, featuring the natural hues of fish skin (grayish-white and light brown) as a base, complemented by black, blue, red, and yellow derived from mineral pigments. The overall effect evokes the cool, serene beauty of northern landscapes. The patterns are often structured as two-way repeats or arranged in ways suited to the design, exhibiting a strong sense of order and ornamentation, and providing an excellent graphic foundation for pattern adaptation in modern design.

### *2.4 The Cultural Significance and Aesthetic Philosophy Behind the Patterns*

Hezhe patterns are not merely visual decorations; they embody a profound belief system and collective memory. The wave pattern originates from an artistic representation of the waters of the Three Rivers. In the Hezhe worldview, water is both the source of life and the medium connecting heaven and earth; thus, wave patterns are often combined with cloud patterns to form the imagery of “water and sky meeting.” Cloud patterns, meanwhile, are the embodiment of good fortune. The Hezhe believe that auspicious clouds swirling around the lapels of their garments will protect the entire family and ensure success in fishing and hunting. Fish and deer motifs are closely tied to Shamanism and totem worship, reflecting an ecological philosophy of harmonious coexistence between humans and all things in nature. The Hezhe people believe that every animal possesses a spirit. Adorning their garments with these images serves both as a prayer for abundant game and as an expression of gratitude and reverence for nature's bounty. This creative approach—weaving survival wisdom, spiritual beliefs, and aesthetic pursuits into patterns—forms the Hezhe people's unique aesthetic paradigm: rustic, simple, and dignified. It eschews ornate luxury, focusing instead on expressing the inner rhythms of life and the cosmic order.

### *2.5 The Artistic Forms of Fish-Scale Patterns and Their Potential for Contemporary Adaptation*

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There are four primary techniques for applying fish-skin patterns to clothing: painting, pasting, appliqué, and embroidery [3]. The painting method involves using natural mineral or plant dyes to paint patterns onto fish skin; while simple, it offers poor durability. The pasting method involves attaching pre-cut fish-skin patterns to garments using fish-bladder glue; though easy to perform, the edges tend to curl up. The stitching method involves sewing pre-cut patterns onto the fabric using fish-skin thread or silk thread; it offers superior durability and is the most commonly used technique for everyday garments; The appliqué technique is the most exquisite—cut-out fish-skin patterns are affixed to the fabric, then densely embroidered along the contours with colored silk thread to create a shallow relief-like three-dimensional effect, commonly seen in Hezhe women’s wedding robes and shamanic attire. Each of these four techniques has its own distinct characteristics, providing a rich technical reference for pattern expression in modern jacket design. For example, the stitching technique can be adapted into modern appliqué and decorative stitching; the embroidery-on-fabric technique can evolve into computerized embroidery and three-dimensional appliqué; and the natural scale-like texture of fish skin can inspire the development of new embossed fabrics and laser engraving techniques. The artisanal wisdom embedded in these traditional crafts serves as a vital resource for contemporary design innovation.

### **3. Innovative Integration Strategies in Jacket Design**

#### *3.1 Pattern Extraction and Graphic Reconstruction: From Cultural Symbols to Design Elements*

To incorporate traditional Hezhe patterns into jacket design, the first step is to transform them from “cultural symbols” into “design elements.” Pattern extraction should adhere to the principles of “respect for the original form, moderate simplification, and flexible adaptation”: while retaining typical features such as cloud scrolls and wave patterns, the graphics are reconstructed using geometric and abstract techniques to align with the jacket’s structural divisions and visual rhythm. For example, complex cloud-scroll patterns can be deconstructed into simple linear units and arranged in a two-way repeat or free-form pattern to adorn the placket, cuffs, or back collar; or fish-scale patterns can be simplified into diamond-shaped grids and used to create a delicate all-over background through digital printing. During the reconstruction process, attention must be paid to the directionality and density variations of the patterns to avoid a jarring, haphazard arrangement. Additionally, AI-assisted generation tools (such as Midjourney and Stable Diffusion) can be used to digitally expand upon traditional Hezhe patterns, deriving a series of pattern variations to provide designers with a wider range of inspirational options.

#### *3.2 Material Combinations and Functional Expression*

The choice of fabric for a jacket directly affects the visual impact of the design and the garment’s wearability. Depending on the intended use and design concept, we recommend three fabric pairing strategies:

3.2.1 Functional Fabrics + Digital Printing—Hezhe ethnic patterns are applied to windproof, waterproof, or breathable fabrics (such as nylon and polyester blends) using digital heat transfer printing, combining visual appeal with practical outdoor functionality. This approach is ideal for urban functional jackets, as the prints offer high

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colorfastness and excellent weather resistance.

3.2.2 Natural Fabrics + Accent Embroidery — Using cotton-linen, denim, or blended fabrics as a base, key patterns are embellished with hand- or machine-embroidery to highlight the intricate detail and warm texture of traditional craftsmanship. Embroidery threads can include matte cotton or lustrous silk, creating a contrast with the fabric and enhancing the three-dimensional depth of the patterns.

3.2.3 Fish-skin Accents—Authentic fish-skin appliqués are applied to small areas such as the collar, pocket flaps, and epaulets, directly showcasing the natural scales and texture of the fish skin to evoke cultural memories of the Hezhe people’s fish-skin garments. To enhance durability and wearability, a thin lining can be bonded to the back of the fish skin, and the edges can be finished with oil-edging. Additionally, fish skin scraps can be compressed into synthetic leather or decorative panels for more stable application in finished garments. This material innovation not only enriches the jacket’s visual appeal but also conveys the design philosophy of “modernizing traditional materials” [4].

### *3.3 Integration of Techniques: From Flat Decorations to Three-Dimensional Textures*

Modern garment manufacturing techniques offer greater possibilities for creating three-dimensional patterns. Drawing inspiration from the appliqué techniques used in fish-scale patterns, three-dimensional embroidery or patchwork embroidery can be applied to specific areas of a jacket—such as the shoulders, the center of the back panel, and the elbows—to create a relief-like tactile texture. Computerized embroidery machines can precisely replicate the stitch patterns of traditional embroidery while significantly improving production efficiency. Additionally, laser cut-out and embossing techniques can be used to create raised or recessed textures resembling fish scales or wave patterns on the fabric. Laser cutouts create translucent patterns, making them ideal for breathable sections of the jacket or as decorative elements visible through the inner layer; embossing, on the other hand, uses heat-pressed molds to imprint a subtle, textured fish-scale pattern on leather or thick fabrics, resulting in a understated yet rich texture. These “intangible cultural heritage + technology” fusion techniques not only preserve the symbolic recognition of the patterns but also endow the jacket with unique craftsmanship details and a sense of fashion-forward flair.

### *3.4 Color Reconstruction: From Natural Hues to Fashion Color Palettes*

Traditional Hezhe patterns feature a simple color palette dominated by black, white, gray, blue, and yellow, derived from the natural hues of fish skin, minerals, and plants [5]. In jacket design, while retaining these classic color combinations, one can subtly incorporate trendy colors that align with contemporary aesthetics, thereby creating a dialogue between traditional and modern color schemes. For example, rendering the swirling cloud pattern in silver-gray on a black jacket creates a subtle yet luxurious visual effect; or alternating indigo and moon-white in the wave pattern to evoke the oriental charm of blue-and-white porcelain. Additionally, digital printing techniques such as gradients and layered colors can be employed to infuse the patterns with richer color depth. The two jackets developed in this study feature two color schemes: “earth tones accented with ochre red” and “cool gray-blue paired with off-white.” These

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combinations preserve the natural aesthetic inherent in the Hezhe ethnic group's color palette while aligning with the color preferences of urban youth.

#### **4. Design Practice and User Feedback : A Case Study of the "Ussuri River" Jacket Series**

##### *4.1 Detailed Description of the Design Implementation Plan*

Based on the above strategy, this paper presents two design proposals for the "Ussuri River" series of jackets.

Option 1 (Urban Functional Style) features Hezhe-inspired swirling cloud and fish scale patterns as its core elements. Crafted from navy blue functional nylon fabric, the back panel of the jacket features digitally positioned prints that create a swirling cloud pattern with varying densities. The placket and pocket flaps are accented with three-dimensional computer embroidery in the same color family, mimicking the relief texture of traditional embroidery; The lining uses recycled polyester fiber printed with a subtle fish-scale pattern, achieving a cultural narrative of "exterior expression and interior concealment."

Option 2 (Casual Workwear Style) features a wave pattern as its central motif. Crafted from an off-white cotton-linen blend, the jacket employs laser-cut detailing on the shoulders and sleeves to create a translucent texture reminiscent of rippling water; The patch pockets on the front chest are embellished with decorative panels made from pressed fish-skin fragments, echoing traditional materials; the lining features a digital print of the Hezhe deer-pattern totem, enhancing a private cultural experience when worn. Given the sacred and ceremonial significance of deer patterns in Hezhe shamanic culture, they are presented as a subtle digital print on the lining. This approach respects cultural authenticity while creating a subtle and private cultural experience, avoiding the over-commercialization of sacred totems. Both jackets feature a slightly loose silhouette to accommodate the daily wearing habits of contemporary youth and allow for layering.

##### *4.2 Assessment of Cultural Heritage Preservation and Market Acceptance*

At the 5th China (Zhejiang) Ethnic Costume Design Exhibition in 2025, the design piece "Ussuri Boat Song", featuring Hezhe ethnic patterns, won the Gold Award, demonstrating the recognition of such designs within the professional community. Meanwhile, clothing and cultural and creative products featuring fish-scale patterns—developed through collaborations between Hezhe intangible cultural heritage inheritors and designers—have generated over 1.8 million yuan in revenue since 2025. This indicates the market's positive reception of Hezhe cultural elements; in open-ended evaluations, terms such as "unique," "story-rich," "one-of-a-kind," and "supporting intangible cultural heritage" were frequently cited. This demonstrates that integrating traditional patterns into jackets—a casual, youth-oriented garment category—has effectively lowered the barrier to entry for ICH-inspired products, allowing more consumers to experience the cultural charm of the Hezhe people through their clothing. At the same time, respondents offered suggestions for improvement, such as further optimizing pattern layouts to suit petite body types and adding waist-cinching designs for women's styles, providing direction for future iterations.

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## 5. Conclusions and Outlook

This study summarizes the findings from three perspectives: cultural value, design methodology, and practical significance:

At the level of cultural value, the traditional patterns of the Hezhe people represent the visual embodiment of a fishing and hunting civilization, embodying rich cultural significance and a unique aesthetic appeal [6]. Through a systematic analysis of the types, symbolic meanings, craftsmanship, and color schemes of Hezhe patterns, this paper demonstrates their potential for dynamic transmission in modern clothing.

At the methodological level, a four-pronged innovative design strategy for jackets—comprising “pattern extraction, material pairing, craftsmanship integration, and color reconstruction”—was proposed. Its feasibility and market potential were validated through a case study of the “Ussuri River” jacket series. The study indicates that applying traditional Hezhe ethnic patterns to modern jacket design not only provides a new medium and channel for the living transmission of intangible cultural heritage but also brings differentiated cultural competitiveness and brand premium potential to the apparel industry.

In practical terms, this study broadens the theoretical perspective on the modern application of ethnic patterns and provides designers with practical methodological guidance.

**Limitations of the Study:** This study has certain shortcomings. First, the number of design prototypes is limited; only two jackets from the “Ussuri River” series have been developed, and the sample size for user feedback is small, with no large-scale market validation having been conducted yet. Second, the industrial durability of fish leather and environmentally friendly processing techniques require further exploration. Third, the modern application of sacred motifs such as deer patterns remains in the preliminary experimental stage, and the accurate conveyance of their cultural meanings requires more in-depth ethnographic research.

Future research could be further expanded in the following areas:

First, explore the in-depth application of digital technology in the extraction, adaptation, and presentation of ethnic patterns, and build an interactive digital repository of Hezhe ethnic patterns;

Second, conduct in-depth research into the commercialization pathways and consumer psychological mechanisms underlying collaborations between Hezhe ethnic patterns and fashion brands;

Third, by conducting cross-cultural comparative studies to analyze the similarities and differences between Hezhe patterns and those of other fishing and hunting peoples—such as the Sami of Northern Europe and the Ainu of Japan—we can identify more universally applicable principles for design adaptation. Through ongoing collaboration between academia and the industry, traditional Hezhe patterns are poised to shine even more brilliantly in the field of modern fashion design, serving as a vivid example of the creative transformation and innovative development of China’s outstanding traditional culture.

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