Research project and supervisory team

Supervisory Team	Supervisor Name Prof. Guoping Qiu
Short introduction & description of research project	With the widespread use of smartphones and digital cameras, photography has become an integral part of everyday life. However, while traditional point-and-shoot systems automate technical settings like focus and exposure, they offer little support for achieving good image composition—an essential element for visual storytelling and aesthetic quality. This limitation particularly affects non-professional users, who often struggle to frame visually compelling photographs. This PhD project proposes the development of a Smart Point-and-Shoot (SPAS) system designed to guide users in real-time toward well-composed shots by recommending camera pose adjustments. The system aims to bridge the gap between technical automation and artistic expression, making professional-quality photography accessible to all. Potential applications span consumer photography, social media content creation, tourism, e-commerce, and immersive technologies like AR/VR. Key challenges include the lack of large-scale datasets with annotated composition adjustment labels and the subjectivity inherent in aesthetic preferences. To address these, the project will leverage panoramic images and perspective projection to simulate diverse compositions, apply pseudo-labeling techniques for efficient annotation, and adopt reinforcement learning to dynamically optimize camera movement. The SPAS system is expected to contribute significantly to computational aesthetics and practical photography guidance, shaping a future where intelligent systems assist users in capturing professional-grade images effortlessly.
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