



GenitAI - Integrated AI System for Lower Reproductive Tract Diseases

GenitAI focuses on solving critical challenges in the diagnosis and management of lower reproductive tract diseases, advancing intelligent and equitable gynecologic care worldwide.

I. Technological Innovation

An AI-powered full-cycle management system has been developed, integrating deep learning and digital human technology. It comprises three core modules: ① AI-assisted diagnosis for precise differentiation of lower reproductive tract diseases (from precancerous lesions to squamous carcinoma); ② intelligent colposcope for standardized image acquisition and diagnostic support; ③ digital human-driven app covering pre-consultation alerts, clinical decision support, and post-treatment follow-up.

II. Workflow Optimization & Adaptability

The system adapts to local healthcare IT infrastructures, supports local language interfaces and offline deployment, complies with regional data privacy regulations, and flexibly integrates with primary or specialized centers. It is particularly suitable for areas with limited gynecologic resources.

III. Model Innovation & Reliability

Built on the largest national image database of lower reproductive tract diseases, the deep learning model achieves a nine-category vulvar disease classification accuracy of 98.4% (world-leading). Cross-validated in clinical settings, it significantly reduces misdiagnosis rates. Full anonymization and privacy protection ensure data security.

IV. Demonstrated Benefits

Low software deployment cost with no high-end hardware requirements. Reduces unnecessary biopsies, referrals, and cancer treatment costs, enabling low-cost scaling. For patients, it offers private, humanized digital health services enabling early detection and reduced cancer risk. For clinicians, it provides standardized decision support. For health systems, it helps build a prevention-oriented intelligent gynecologic disease control framework with substantial social benefits.

