

Embedded Edge Intelligent Visual Information Processing Technology and System Application

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Since the demands for optical imaging equipment from users is no longer limited to high-resolution data service, how to provide the high-value information services to the users is an urgent problem that needs to be solved in the fields of optical image processing and optoelectronic imaging equipment development. The joint artificial intelligence (AI) technology research team of CIOMP (Changchun Institute of Optics, Fine Mechanics and Physics) and SIAT (Shenzhen Institute of Advanced Technology) propose to empower the development of optoelectronic imaging equipment with AI. We have developed a flexibly customized SMIC 40nm visual processor, and implemented real-time image intelligent interpretation algorithms based on deep learning which mainly include image enhancement, target recognition and tracking. Then, we deployed artificial intelligence algorithms on the chip side. By breaking the key technology of edge intelligent visual information processing for optical imaging equipment, we carried out system application demonstrations for remote sensing of earth observation, industrial detection and other fields to target the users' needs.



Short Bio:

Haitao Nie received his PhD degree in Mechanical and Electronic Engineering from University of Chinese Academy of Sciences, China. He is an Associate Researcher of Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China.