



# University of Central Florida

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## Correlate Imaging for Simulation-Based Training Systems

Military and private companies are increasingly investing in virtual environments, simulation-based training, specialized simulation platforms for collective team training, and live-virtual-constructive training. Consistency, and with it the look and feel that makes simulated training most effective, can be effected when imaging renders differently for individual trainees because systems lack a uniform image generation process. Conventionally, correlation and interoperability between simulation systems can be determined by terrain database (TDB) correlation methods and/or human comparison. However, the TDB is limited by manufacturers' proprietary information within applications, which allow database correlation or synthesis but not uniform image generation processes.

Researchers at UCF, in partnership with the US Army, have developed a method for visual correlation within networked simulation-based training systems. This algorithm for identifying differences between two images can be implemented as software within existing and cutting-edge simulation systems used in human-in-the-loop simulators, distributed learning, and training applications.

### Technical Details

The algorithm provides a quantitative, automated method for assessing the correlation level of two rendered images. By calibrating the algorithm with results from human-in-the-loop testing, software developed using this algorithm can improve image correlation to the point where differences are undetectable by a human observer while using minimal computing resources.

### UCF Inventors

Stephanie Lackey, Ph.D.; Daniel Barber, Ph.D.; Eric Ortiz; Joseph Fanfarelli

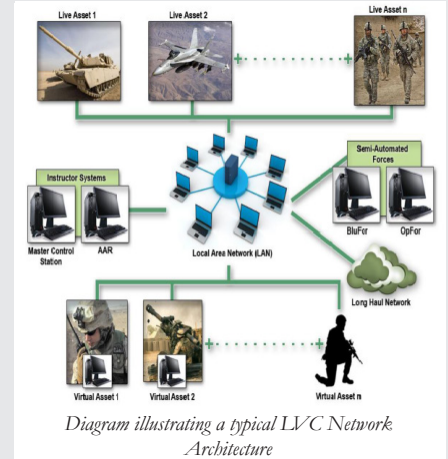


Diagram illustrating a typical LVC Network Architecture

### Benefits

- Determines differences between images

### Applications

- Military training
- Distributed learning
- Simulation systems

### Tech Fields

Educational Tools, Software

### Keywords

software, military, defense, simulation-based training, image generation, distributed learning, distance learning, human in the loop, live virtual constructive training

**If you or your company are interested in this opportunity, Contact:**

John Miner | 407.882.1136 | John.Miner@ucf.edu | Tech ID# 32926

UCF Office of Technology Transfer | 12201 Research Parkway, Suite 501, Orlando, FL 32826