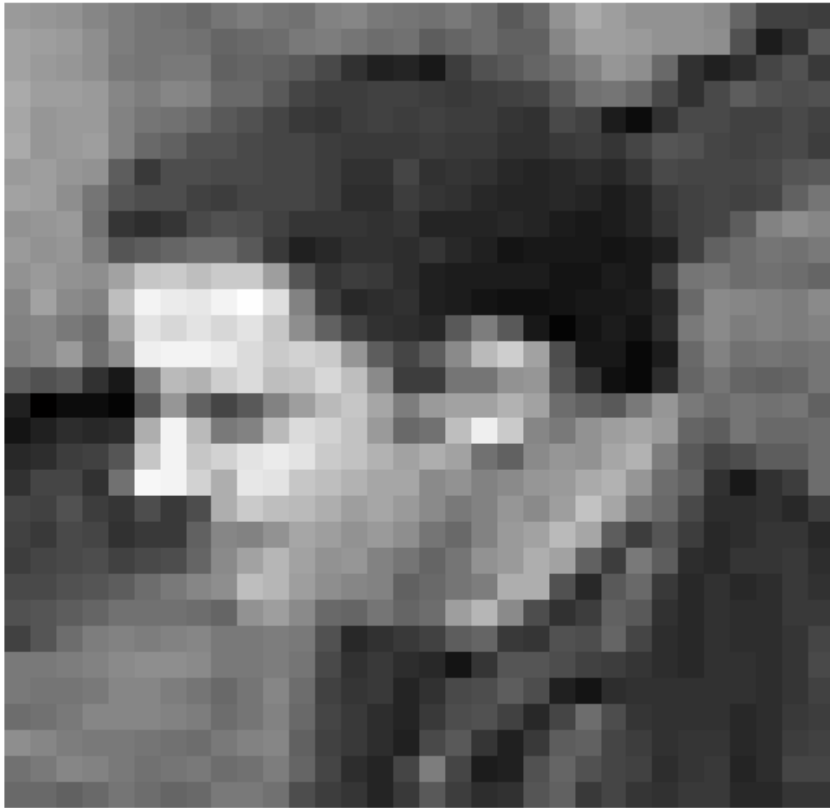


# Some Examples of Performance of the MDSP Super-Resolution Software (SuperLab) August 2004

The work implemented in this software at U.C. Santa Cruz was carried out as a result of a collaboration between the research group of Prof. Peyman Milanfar and Prof. Michael Elad of the Technion CS department. Sina Farsiu is the principal architect of the code, with significant contributions from Dirk Robinson, particularly on the motion estimation algorithms.

This work was supported in part by the National Science Foundation Grant CCR-9984246, US Air Force Grant F49620-03-01-0387, and by the National Science Foundation Science and Technology Center for Adaptive Optics, managed by the University of California at Santa Cruz under Cooperative Agreement No. AST-9876783.

# Resolution enhancement of a face from a sequence captured by a surveillance camera



One Low-resolution Frame



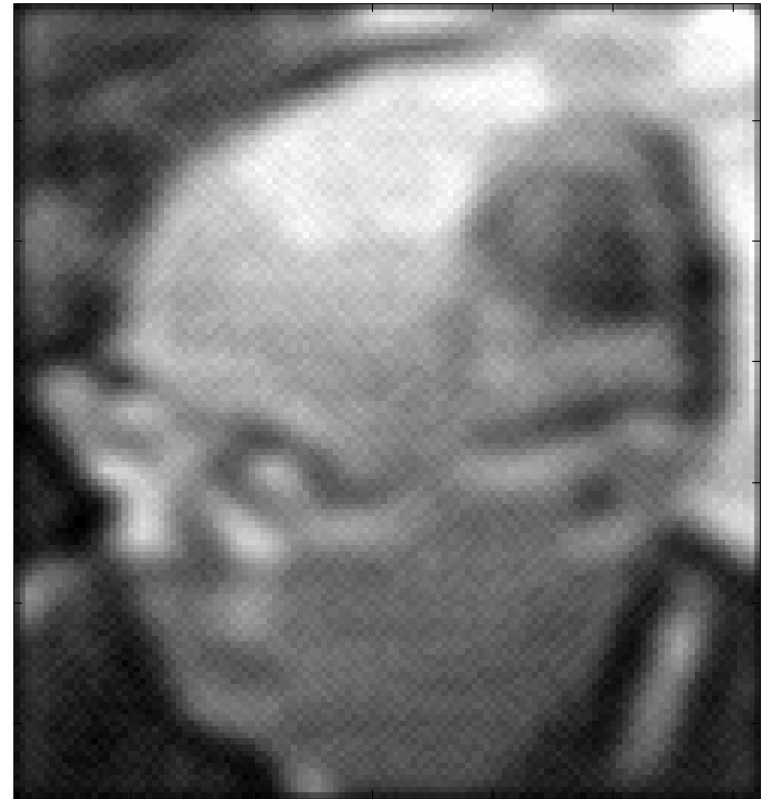
Output High-resolution Still Frame

40 input frames, resolution enhancement factor of x4

# Resolution enhancement of a face from a sequence captured by a surveillance camera



One Low-Resolution Frame



Output High-resolution Still Frame

30 input frames, resolution enhancement factor of x4

# Resolution enhancement from multiple still frames acquired with an Olympus C-4000 digital camera



One Low-Resolution Frame



Output High-resolution Still Frame

20 Input frames, resolution enhancement factor of x4

# Resolution enhancement from still frame infrared images



One Low-Resolution Frame



Output High-resolution Still Frame

8 input frames, resolution enhancement factor of x4

# Resolution enhancement from video frames captured by a commercial webcam (3COM Model No.3719)



One Low-Resolution Frame



Output High-resolution Still Frame

53 input frames, resolution enhancement factor of x4

# Resolution enhancement in color from a sequence captured by a commercial camera



One Low-Resolution Frame



Output High-resolution Still Frame

40 input frames, resolution enhancement factor of x4

# Resolution enhancement in color from a video sequence captured by a Pyro 1394 webcam



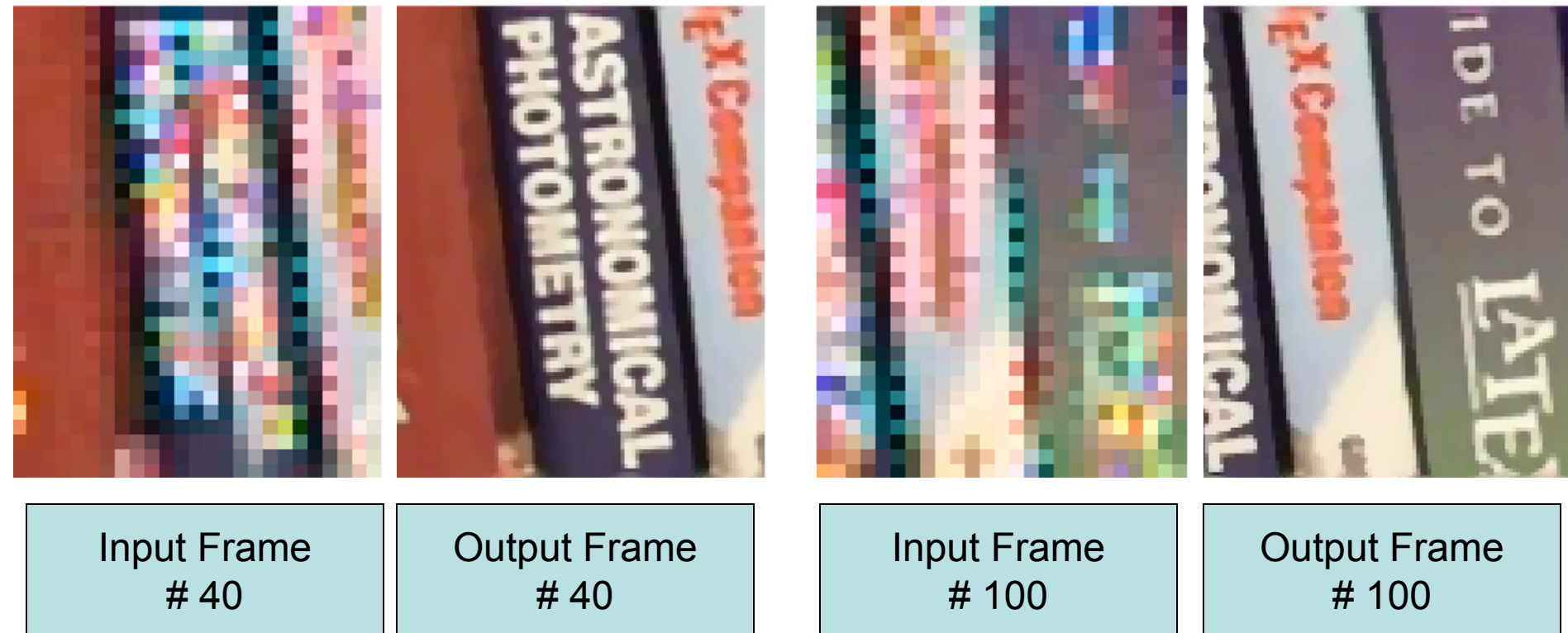
One Low-Resolution Frame

Output High-resolution Still Frame

30 input frames, resolution enhancement factor of x4



# Video-to-Video resolution enhancement of a sequence of Bayer color-filtered images (simultaneous resolution enhancement and demosaicing)



325 input frames, 325 output frames, resolution enhancement factor of x4