GPU image processing

high performance SDK • realtime applications

in partnership with

Fastvideo

xi Lab

Fastvideo
Fastvideo - GPU image processing

Fastvideo has designed high performance SDK for image processing on GPU. That SDK corresponds to standard image processing pipeline for camera applications. It covers all image processing stages starting from raw image acquisition from a camera to JPEG compression with storage to RAM or HDD. All image processing is done on GPU and this leads to exceptionally high performance.

Features of Fastvideo SDK for CUDA:
- Image acquisition
- Unpacking module for specific formats of raw data
- Dark Frame Subtraction
- Shading Correction
- Base Color Correction
- Debayers: HQLI and DFPD
- Raw Bayer Compression/Decompression
- Output LUT
- Crop
- Rotate
- Resize (downsampling)
- Sharp
- OpenGL output
- JPEG Codec, MJPEG integration with FFMPEG
- JPEG2000 codec
- H.264 codec

Hardware and Software Requirements:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Windows-7/8 (32/64), Linux (32/64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVIDIA GPU</td>
<td>Server (Tesla, Quadro), Desktop (GeForce GTX), Laptop (GeForce GT), Mobile (Tegra K1)</td>
</tr>
<tr>
<td>CUDA Version</td>
<td>6.0 and 6.5</td>
</tr>
</tbody>
</table>

Performance Issues:
- All image processing is done on GPU
- Performance more than 1 GPix/s on GeForce GTX Titan GPU for full image processing pipeline

Realtime Applications for PC with one GPU:
- JPEG compression for 3 cameras 8-bit, 500 fps, 1280x1024
- Debayer and JPEG compression from 10 USB3.0 cameras, 8-bit, 30 fps, 3 Mpix
- Debayer and JPEG compression from 2 PCI-Express cameras, 12-bit, 30 fps, 20 MPix

Partner Contact:
info@fastcompression.com
www.fastcompression.com
Fastvideo, Ltd., Russia
Phone: +7 (495)-542-04-49

What is xiLab?
Anything displayed with the reference „xiLab“ or in our xiLab space in our booth refers therefore to technologies and prototypes that are developed and functional, but where XIMEA does not commit on release, time lines or final appearance.
We are keen to learn the markets reaction to items displayed or exposed under this label.

Contact:
Please visit ximea.com for complete product information.
E-mail our sales team at sales@ximea.com for your price and further information.

XIMEA GmbH, Germany
Hansestraße 81
48165 Münster
Germany
info@ximea.com
Tel: +49 2501 964 555-0
Fax: +49 2501 964 555-99

XIMEA s.r.o., Slovakia
Lesna 52
900 33 Marianka
Slovakia
info@ximea.com
Tel: +421 (2) 205 104 26
Fax: +421 (2) 205 104 27

XIMEA Corp., USA
2102 Beech Court
Golden, CO 80401
USA
info@ximea.com
Tel: +1 (303) 389-9838
Fax: +1 (303) 202-6350

www.ximea.com