DualAlign LLC: Technology to Application Solutions

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History: The CenSSIS Challenge

- Can one algorithm automatically register each of these different image pairs?
Dual-Bootstrap Algorithm and Software

- **Start:**
  - Retinal image registration
  - CenSSIS toolkit effort

- **Properties**
  - Robustness to changes in illumination, modality and physical structure
  - Generic features
  - Sophisticated decision criteria

- **Executable posted October 2005**
  - Windows, Mac, Linux, FreeBSD
  - Over 4,000 downloads

- **Applied basic approach to a number of related problems...**
2006 - 2007:
- Formation and team
  - Remy Arteaga, CEO
  - CenSSIS PhD Gehua Yang, Senior Scientist
- First two contracts
- Private funding

2007 - 2009:
- Core algorithm and software development
- All DualAlign technology

2009 –
- Core products
- Partnerships
- Enhanced algorithms and software
Pictures taken with a Verizon Blackberry Curve.
Customers in

- Defense
- Document processing
- Forensics
- Remote sensing
- Thermal imaging

...
- Licensed to Topcon
- Being integrated into their image management systems worldwide
- Future joint technology development
Coming soon … *i2k Change*

- **Initially:**
  - User-assist for change
  - Restricted imaging conditions
- **Subregion recognition and matching**
- **Structural and illumination-based measurement and highlighting**
- **Business partner and first customer**
Coming Soon – *i2k Recognize*

- “Instance” recognition
- Builds on core strengths
- Applications:
  - Ophthalmology
  - Document / form scanning
  - Inspection
Coming Soon – V 2.0 of the i2k family

- Long image sequences
- Montage 1000’s of images
- Subregion matching
- Sequences of montages
- 2-10x speed improvements
DualAlign Business Perspective

- Focused on products and markets from the start
- Model: products lead to market-specific partnerships:
  - Ophthalmology - Topcon
  - Inspection – TBA
  - Remote sensing - ?
- Need to move closer to end products to make substantial profits
- Finding the right target - market and product - is challenging:
  - “Where is the pain point?”
- Resource allocation is difficult
- Think about solutions instead of technology