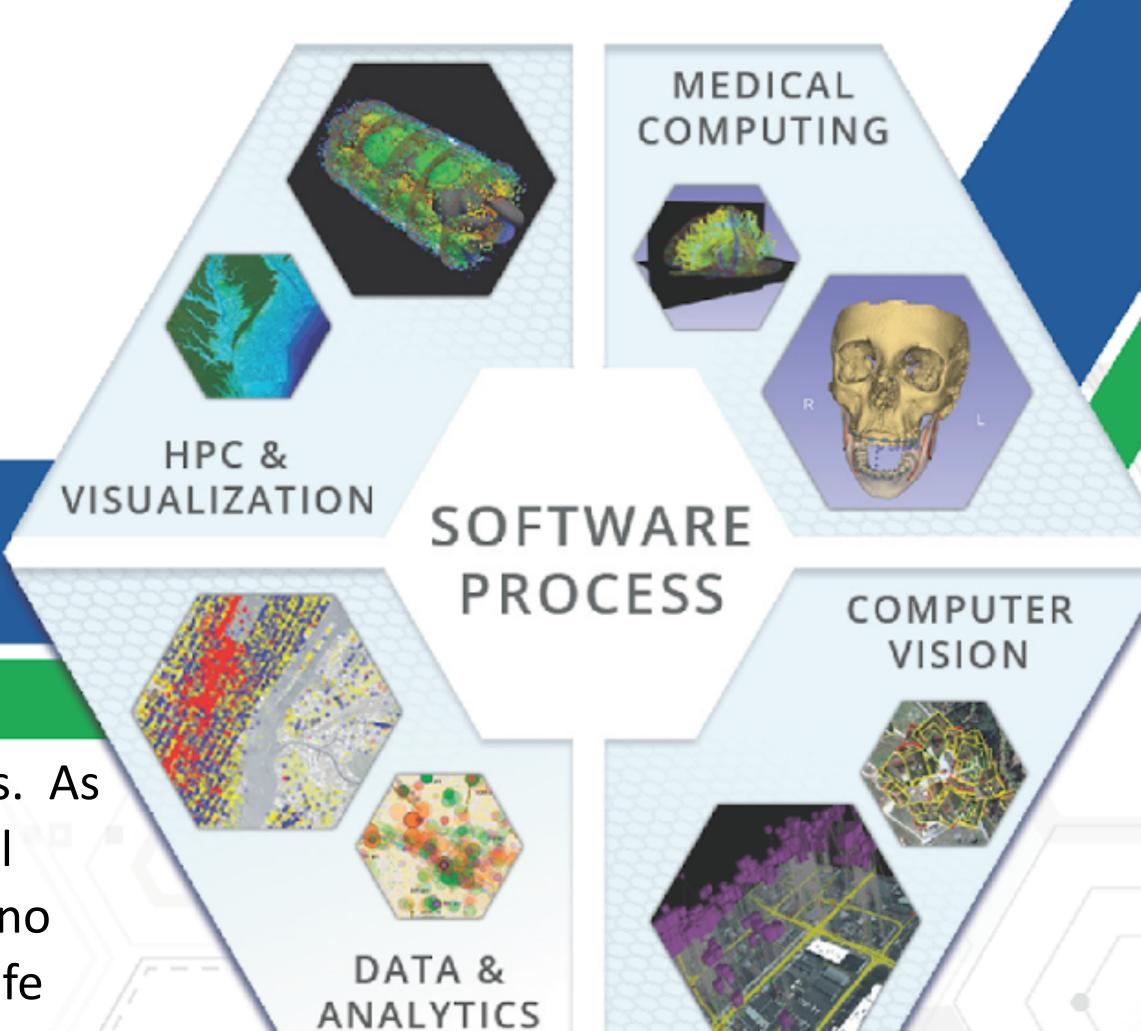


R&D services specializing in advanced technical computing, state-of-the-art AI, and professional software development

kitware@kitware.com

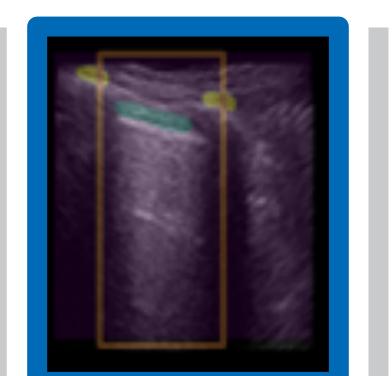
Kitware provides best-in-class open source and open science research for our government partners. As an MTEC M-Corps provider, we offer a great track record in grant-teaming and professional medical technology and software development services. Our commercial partners own their source code (no licensing) and intellectual property. We can help at any stage of the commerical medical product life cycle: from initial R&D to IEC 62304 and HIPAA -compliant product development.



DukeHealth AI-assisted Point-of-Care Ultrasound and Related Projects







PTX

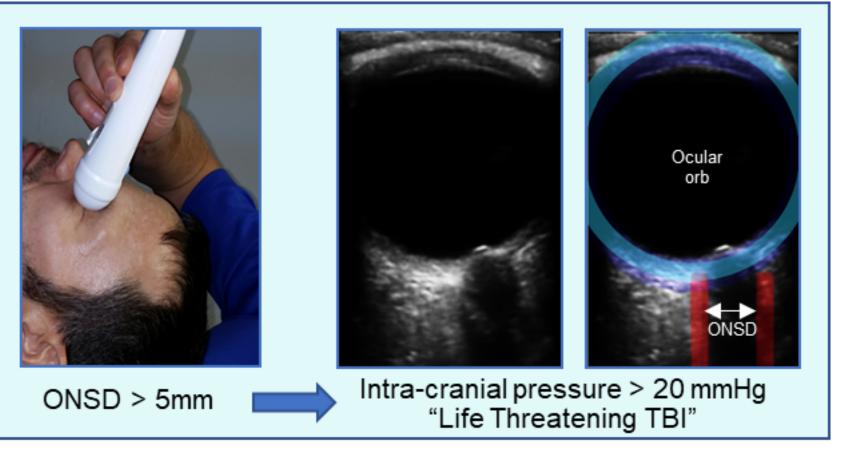


AR and automated E-FAST: US spectroscopy

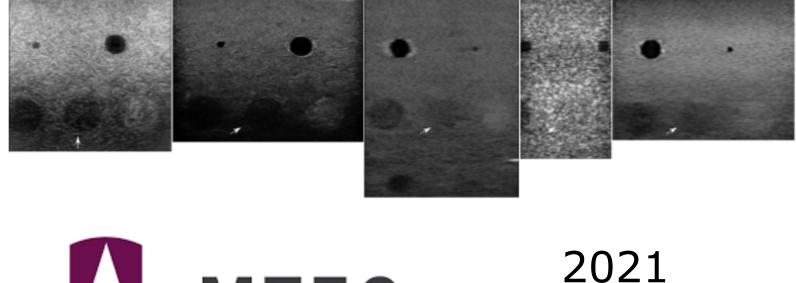
- TBI / ONSD
- Peripheral Nerve Block
- Intubation
- Liver Cirrhosis / US Spect.
- COVID / Multi-Scatters
- Prostate / ARFI / SWE
- Tumor / Microbubbles
- Brain tumor resection
- Liver lesion RFA

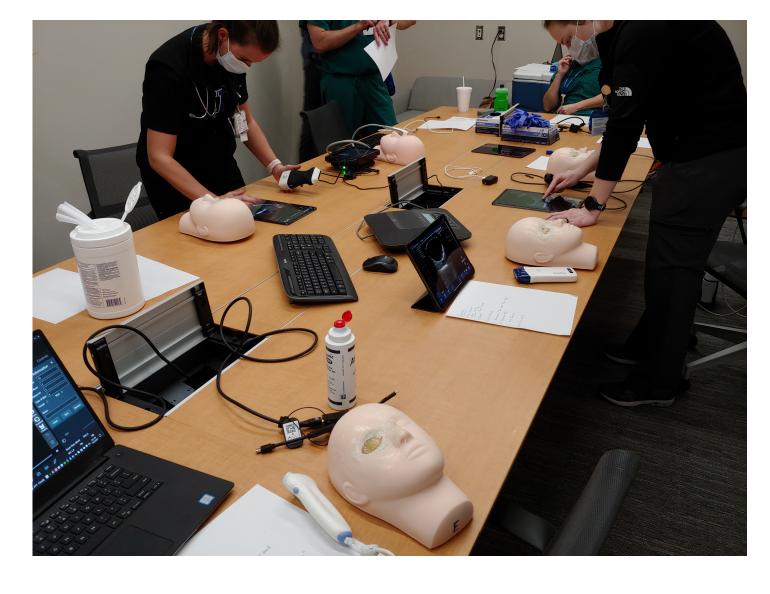
Non-invasive Triage of Severe TBI

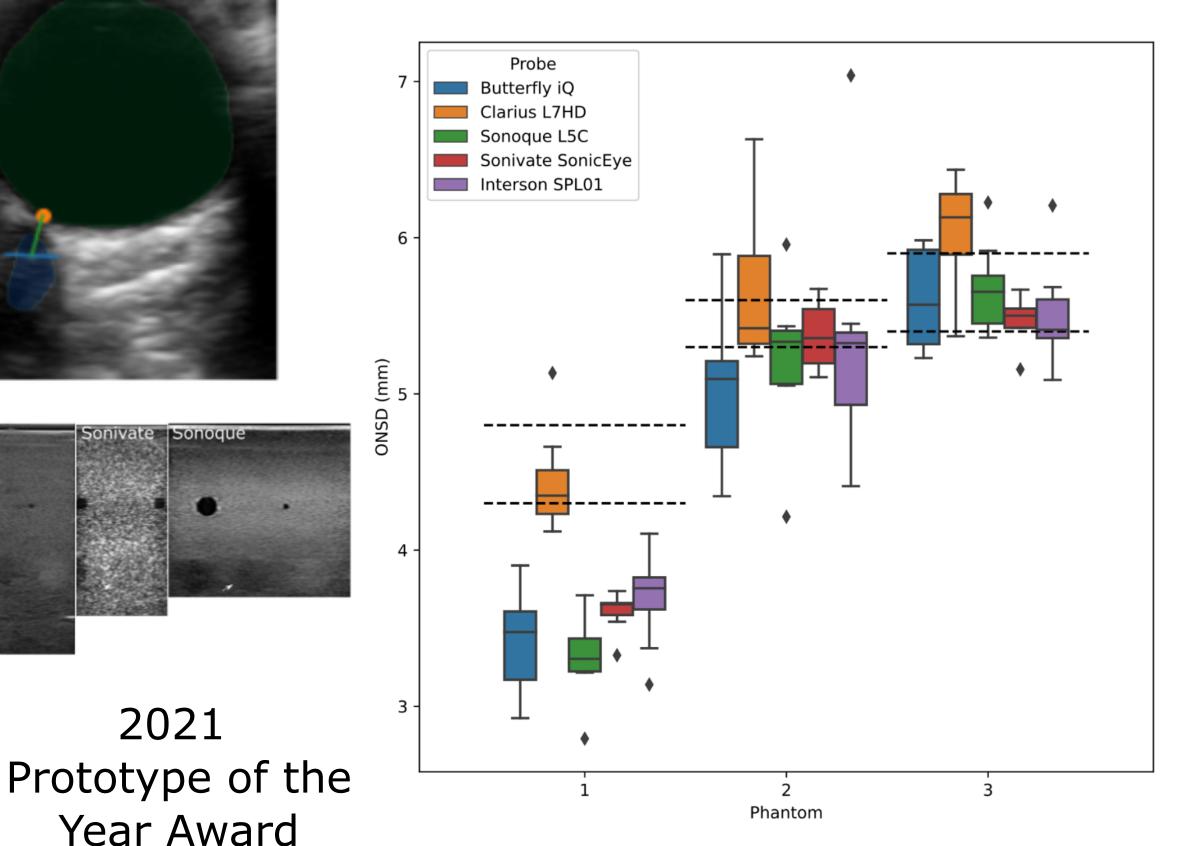
- Detect life-threatening elevated intracranial pressure
- AI-assisted ultrasound of the optic nerve sheath
- Designed to run on off-the-shelf point-of-care ultrasound
- Ongoing clinical study with healthy and TBI patients
- Future steps: user-guidance, full-system trials



Manual ONSD = 4.800Frame = 0, ONSD = 4.9162



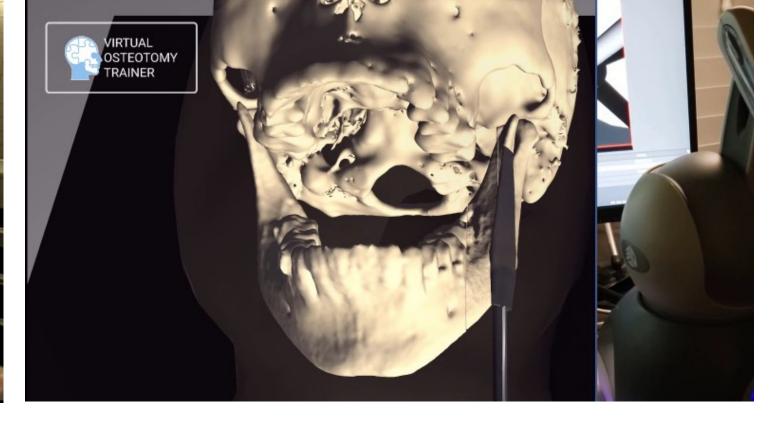




Virtual Training Simulation and **Informatics**

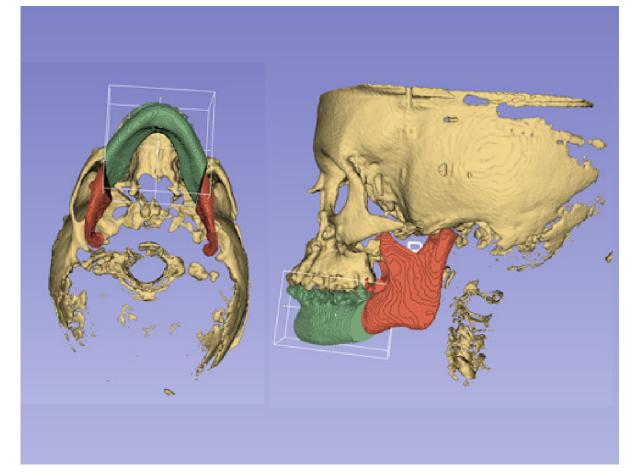
- Holographic, VR, and AR displays
- Virtual surgical simulation and training
- Electronic health records and trauma registry analysis

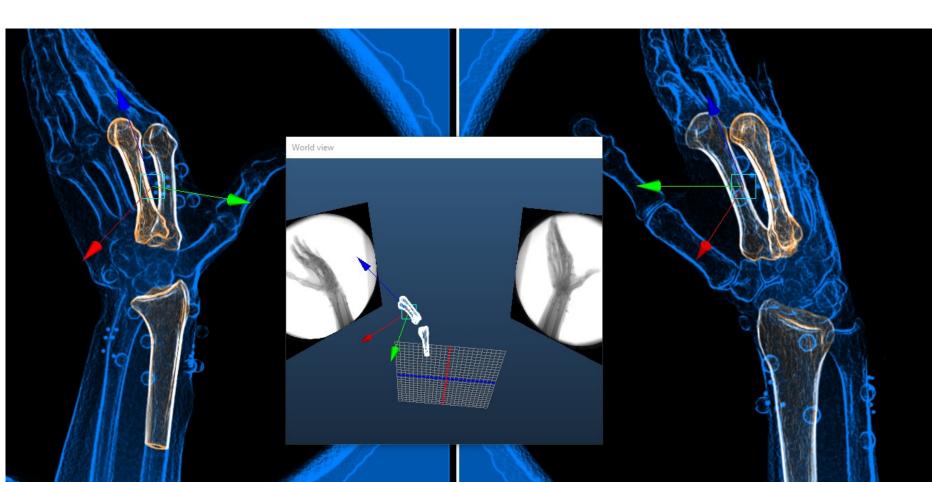




Musculoskeletal and Craniomaxillofacial **Analysis**

- Severe trauma musculoskeletal and craniomaxillofacial surgical planning
- Predict risk-of-injury under load
- Patient-specific return-to-duty recommendations

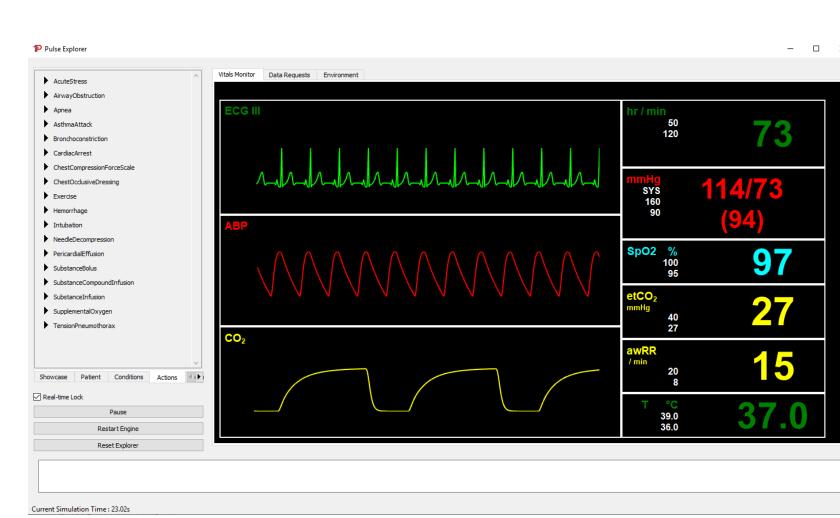




Pulse: Human Physiology **Simulation**

- Comprehensive physiology simulator
- Virtual clinical trials
- Digital twin simulation
- Script-free medical simulation

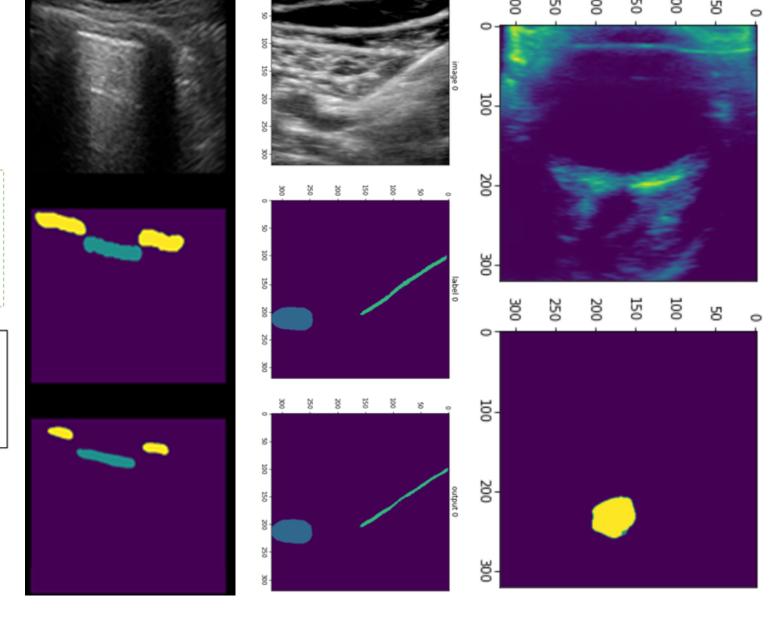




Anatomic Reconstruction for Multi-Task Optic Nerve Pneumothorax Nerve Block **Trauma Ultrasound** Sheathe

Year Award

Pleura / Fascia Step 3 Feature Extraction = methods trained using non-task-specific ultrasound data = initially trained using non-task-specific ultrasound data, then further optimized using task-specific data = trained using only task-specific data.



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