JOYCE MASSEY TBI GRAND CHALLENGE
2016 Funded Research Projects

Funding was awarded based on the potential to impact the way traumatic brain injury is diagnosed and treated during the initial “golden hours” of care.

AUTOMATED BRAIN IMAGE ANALYSIS OF SUBDURAL HEMATOMA

THE TEAM

Kayvan Najarian, PhD
Emergency Medicine

Craig Williamson, MD
Neurological Surgery

THE NEED

HUMAN ERROR

SUBTLE ABNORMALITIES

Not easily detected via CT scan

MISSED DETECTION OF SUBDURAL HEMATOMA

THE TECHNOLOGY

AUTOMATED IMAGE ANALYSIS

BRAIN COMPRESSION
HEMATOMA SIZE
MIDLINE SHIFT

DEVELOP PREDICTIVE MODELS

COMPETITIVE ADVANTAGE

FULLY-AUTOMATED
Identifies, localizes and quantifies imaging features to guide diagnosis of subdural hematomas.

PRECISION IMAGE PROCESSING
Removes noise and artifacts from images, preserving medically relevant information.

SPEED AND ACCURACY
Fully-automated system provides faster and more accurate diagnosis.

COMMERCIALIZATION ROADMAP

CLASS II DEVICE
510(k) premarket notification

LICENSE TECHNOLOGY
Commercial radiology providers

POTENTIAL PARTNERS

DATA COLLECTION & ANNOTATION

PROCESS NOISE REDUCTION METHODS

ALGORITHMIC DEVELOPMENT

SEGMENTATION VALIDATION

COMMERCIALIZATION ALGORITHMS

PROJECT MILESTONES

An automated brain image analysis system that can quickly detect several factors to diagnose subdural hematomas.