Capability Statement

CSLabs

Dr. John Tan, President/CEO
jtan@cslabs.tech
(703)982-7777x801

Core Competencies

- **Physical Science**
  - Applied physics and engineering
  - Physics-based Modeling and Simulation (M&S)
  - Numerical Methods and Computational Physics
- **Data Science**
  - Artificial Intelligence and Machine Learning
  - Computer Vision and Image Analysis
  - Signal Processing and Feature Extraction
  - Data Fusion and Integration
  - Natural Language Processing (NLP)
  - Statistical and Exploratory Data Analysis (EDA)
- **Computer Science**
  - Advanced Algorithm Development
  - Computational Efficiency and Optimization
  - High-Performance Computing (HPC) Solutions
  - Scalable Parallel Processing
  - Professional Software Development Processes

Differentiators

- **Decades of DoD Experience**: 30+ years supporting DoD projects, including R&D, M&S, software development, and ability to deliver innovative solutions through successful SBIR programs across multiple phases/agencies
- **Leadership Excellence**: The CSLabs team has advanced degrees in Physics, Computer Science, and specializations in Data Science, ensuring a deep scientific and technical foundation across all projects
- **Software Development Capability**: Extensive experience in software development using HPC and modern engineering practices
- **Specialized Products:** CSLabs invests IR&D into custom technologies like the **DeltaX**, a modular system for managing and processing large-scale data with interchangeable AI algorithms with checkpoint & restart, and **Image Processing Xpert (IPX)**, an advanced computer vision platform offering customizable plugins and tools for image analysis, object detection, and classification.

Company Data

History
Founded in 2012, SciX3 LLC (dba CSLabs) excels in addressing complex technical challenges. Our pillars of expertise include fundamental physics, data science, and advanced computational methods. With a strong foundation in professional software development, we deliver innovative, cross-domain solutions that drive mission success for defense and commercial clients.

DCAA: Approved Accounting system
FCL: Eligible – Formerly Held
SBA: 8(a) Certified
UEI #: CXL2C3KES4J5
Cage Code: 6UWM5
Seaport-NxG: N00178-25-D-7798

NAICS: 541715*, 541714, 541713, 518210, 541690, 541330, 541511, 541512, 541519, 541611, 541618, 541690
PSC: AJ13, AJ14, AJ15, AN12, AN14, AJ11

Past Performance

- **Prime – Defense Microelectronics Activity** SBIR Phase II contract # HQ072718C0001, **XRadIC**: X-ray imaging framework that integrates on-the-fly scanning, ML optimized 3D reconstruction and segmentation, with feedback control to reverse engineer ICs at nanometer scale with HPC scalability. Awarded 2016 (24 months). $1M. TPOC: Mike Sutherland, michael.r.sutherland7.civ@mail.mil
- **Prime – U.S. ARMY** SBIR Phase I contract # W51701-22-C-0045, **AI-Routes**: AI-driven breach round optimization and route path planning for Army operations. Awarded 2022 (6 months). $250,000. TPOC: Nicholas Poyser, nicholas.j.poyser.civ@army.mil
- **Prime – U.S. ARMY** SBIR Phase II contract # W5170122C0032, **HOBES**: AI-powered fuze burst detection system for automation of manual video scoring and improved accuracy. Awarded 2022. (18 months) $1.8M. TPOC: Dexter H. Cook, dexter.h.cook.civ@army.mil.
- **Prime – DARPA** SBIR Phase II contact # W31P4Q-14-C-0014, **Foliage Propagation Model**: RF modeling for complex foliage scenarios with advanced ray sampling and HPC. Awarded 2014. (48 months) $1.8M. TPOC: Dr. Joe Evans, joseph.b.evans27.civ@mail.mil
- **Prime – U.S. Air Force** SBIR Phase III Transition contract # FA8650-20-C-1936, transitioned the **XRadIC** X-ray imaging framework developed in Phase II Topic DMEA 152-002 for IC/FPGA change detection. Awarded 2020 (24 months) $900,000. TPOC: Dr. Kitt C. Reinhardt, kitt.reinhardt@us.af.mil
- **Prime – U.S. Air Force** SBIR Phase I contract # FA857119PA016 **XDLayer**: Automated software framework to non-destructively reverse engineer Printed Circuit Boards (PCBs) using lab X-ray microscope systems with modeling and simulation of X-ray imaging to optimize system performance. Awarded 2019 (7 months) $150,000. TPOC: Jonathan Foster, jonathan.foster.10@us.af.mil
- **Prime – U.S. NAVY** SBIR Phase II contract # N0001424C1332 **UMV Autonomy**: Advanced AI/ML autonomy software designed for unmanned maritime vehicles, enabling surface and underwater operations in dynamic maritime environments. Awarded 2024 (36 months) $2M. TPOC: Dr. Robert Brizzolara, robert.a.brizzolara.civ@us.navy.mil