



AVA LABS

AVA Labs
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CAPABILITY STATEMENT

CORE COMPETENCIES

- Cross-disciplinary R&D prototyping firm specializing in rapid early-stage product development and feasibility studies.
- Our expertise spans electronic, mechanical and software design and development.
- We develop and demonstrate fully functional prototypes under compressed timelines.
- We are uniquely suited for agencies seeking nimble, multi-skilled partners who can rapidly de-risk innovation and support SBIR, prototyping, or tech scouting efforts.

KEY DIFFERENTIATORS

- **Speed + Precision** – Rapid delivery of functional prototypes without sacrificing technical integrity or scalability.
- **Cross-Disciplinary Execution** – Integrated mechanical, electronic, firmware, and cloud development under one roof.
- **Feasibility + Ideation Expertise** – Engaged at the earliest stage of development to assess risks and bring clarity to complex challenges.
- **Founder & Inventor Perspective** – Led by a multi-patent-holding founder with a deep understanding of both technical development and product strategy.
- **Maximum Agility** – Small, responsive team capable of adjusting scope and direction in real time.

PAST PERFORMANCE

AI-Stabilized Inertial Navigation System for Drones, Submersibles, and Robotics

IMU + Edge AI + Sensor Fusion + Drift-Correction Platform | 2024–Present

Co-invented a patent-pending system combining IMUs and AI-based drift correction for reliable navigation in GPS and vision denied environments. Supports SLAM and motion tracking for drones, humanoid robots, subterranean and underwater vehicles.

Contact: Randolph Robert

Recycling Greywater Laundry System – IP Development

Sustainable Engineering | 2023

Developed a system that captures and recycles greywater between wash and dry cycles to reduce residential water consumption. Filed for patent protection and prepared for DoE-related applications.

Contact: Randolph Robert

Medical Device Startup – Embedded Sensor Platform

Bioimpedance Spectroscopy | 2014

Designed and prototyped a surgical-grade sensor for tissue characterization using bioimpedance. Delivered a functional prototype and co-authored a utility patent and multiple academic journals to support ongoing development.

Contact: Available upon request

WHO WE ARE

AVA Labs is a privately owned product development firm based in Ohio. Founded by Randolph Robert, the company brings together deep expertise in electronics, embedded systems, mechanical design, and startup strategy. AVA Labs primarily serves founders, small businesses, and innovation-focused partners in both commercial and government sectors.

- **UEI:** S218Y5J64DF4
- **CAGE Code:** 13F20
- **NAICS Codes:** 541715, 541330, 541512
- **Socioeconomic Status:** Small Business