

Adaptive, Intelligent Training Systems



Are your trainees gaining the skills they need in the field?

Or are they just learning to play a very expensive game?



The time trainees spend engaged with a training system can become the most expensive element of your training investment as your organization leverages distributed, simulation-based training.

Losses can be significant if this time is wasted because training doesn't efficiently and effectively transfer the skills and knowledge trainees need to succeed in the field.

Our analytics and algorithms ensure your trainees master the skills they need in the field; our reports provide evidence that your training works.

Trainees graduate **FAST** with the skills they **NEED**

With our adaptive, intelligent training, your organization saves costs while trainees quickly improve skills.

Adaptive | Training is tailored to each trainee, maximizing learning gains over time

Intelligent | Novel, innovative AI algorithms ensure training is effective, objective, and reliable

Training | The Scenario Builder supports enterprise-level development for multiple domains, platforms, and modalities



Our systems adapt to each trainee to deliver effective training in minimal time

Charles River Analytics pioneers training techniques and solutions for diverse applications. Our state-of-the-art methods for domain knowledge capture, simulation-based training practices, and data analytics ensure your training platforms constantly improve.

Game-Based Training

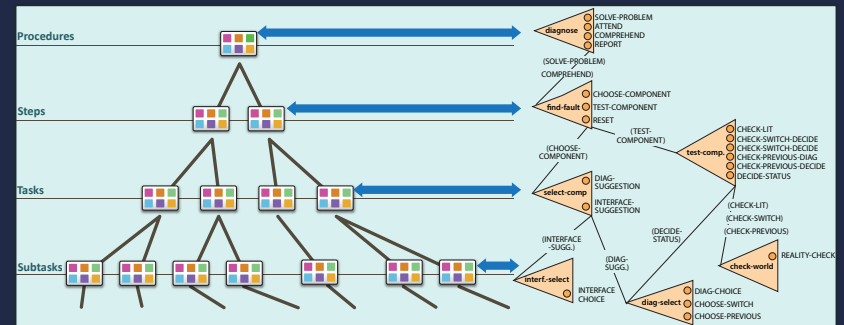
Our EAGLE system extends MAGPIE to offer a just-in-time training tool for US Air Force satellite communications students and deployed personnel. EAGLE provides a realistic way to train students using scenarios, which was only possible through this tool.



MAGPIE provides error tracking and guidance for improvement within a realistic and easy-to-use interface.

Skill Modeling

We use MAST skill-tree modeling to enhance training by clearly and explicitly defining skills, competencies, and objective metrics. Our MAST process affordably and reliably enables scenario-based training in simulation.



Our skill tree framework models tasks across domains from medical to maintenance, and diverse skill sets from procedural, to decision-making, to communication and teamwork.

Behavior-Based Modeling and Simulation

Our Hap behavior modeling technology incorporates teammates and adversaries into your simulation by providing context-aware, robust, dynamic agents and scenarios.



Our SimFSM patient simulator enables training systems, such as our mixed-reality combat trainer, to incorporate real-time battlefield injuries so trainees can practice treatment, triage, and medical logistics.

Training aircraft maintenance and satellite comms with serious games



Our game-based maintenance training responds to individual learning needs, performance, and instructor guidance

“Currently, you have to go to the flight line to actually teach [mission-critical maintenance]. The new MAGPIE effort is really about helping the Warfighter to train better.”

*– 2nd Lt Mitchell Lichtenwald,
program lead in AFRL’s Airman
Systems Directorate*

Charles River Analytics worked with the Air Force Research Laboratory (AFRL) to develop effective games to revolutionize aircraft maintenance training. AFRL is using MAGPIE, our immersive, augmented-reality learning environment, to turn novice F-15E aircraft avionics technicians into experts.

MAGPIE is a powerful software base that can be adapted for diverse, just-in-time training applications. This training is available whenever and wherever a student needs it, providing *immersive rehearsal of unfamiliar and complex procedures at a low cost.*



*DiSTI virtual environment model of
Hawkeye III Lite Radar*

To learn more about how we can work with you, email contactus@cra.com.

Charles River Analytics conducts cutting-edge AI, robotics, and human-machine interface R&D to create custom solutions for your organization. Our customer-centric focus directs us towards problems that matter, and our passion for science and engineering drives us to create actionable, impactful solutions.

We were founded in 1983 to perform results-focused research for the US government. We became an employee-owned company in 2012, setting the stage for the next generation of innovation, service, and growth. Today, our over 200 employees make a difference for a “who’s who” in government and industry by delivering results on government programs and working with commercial partners.

We come to work every day because we want to advance technology to solve today’s hardest problems. Our track record speaks for itself—our implemented solutions enrich the diverse markets of defense, intelligence, medical technology, training, transportation, space, and cyber security. We owe our success to our expertise in advanced algorithms, machine learning, autonomous systems, advanced human-system interfaces, agile software and hardware engineering, and to our enduring base of knowledgeable customers.

At Charles River Analytics, we turn research into results.

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TRAINING SYSTEMS