ORIGAMI LABS

Origami Labs Human-Centric AI R&D as a Service

About Origami Labs

Artificial Intelligence (AI) is changing the world we live in and impacting society in both positive and negative ways. Our mission is to help government exploit AI technologies to overcome some of its greatest challenges and deliver meaningful societal benefit.

Through research, rapid prototyping, and an iterative human-centric approach to development, we help deliver tools and capabilities to solve our customers' most complex problems. We understand that customer and user challenges are evolving and multifaceted, therefore the solutions are not always off-the-shelf or require the integration of disparate technologies. We work with customers and users to discover the core of their problems, explore the science and technology, then rapidly evolve innovative, real-world solutions, to transform capabilities.

Our team has deep experience of pushing the boundaries of technology, delivering innovative solutions to incredibly challenging problems across a range of industries, including defence and security. We bring together expertise in AI, machine learning, software development, assurance and deployed systems.

Our customers include the UK government, executive agencies, multi-national corporations and SMEs.

Our Service

Our R&D as a service philosophy is to bring the customer on the journey of discovery, down-selection and system development with us, ensuring we deliver outputs that exceed expectations and can be managed by the customer beyond our engagement.

We work with our customers, their customers and end users to deeply understand the problem at hand, their constraints, the opportunity landscape and define what success looks like.

hello@origamilabs.co.uk

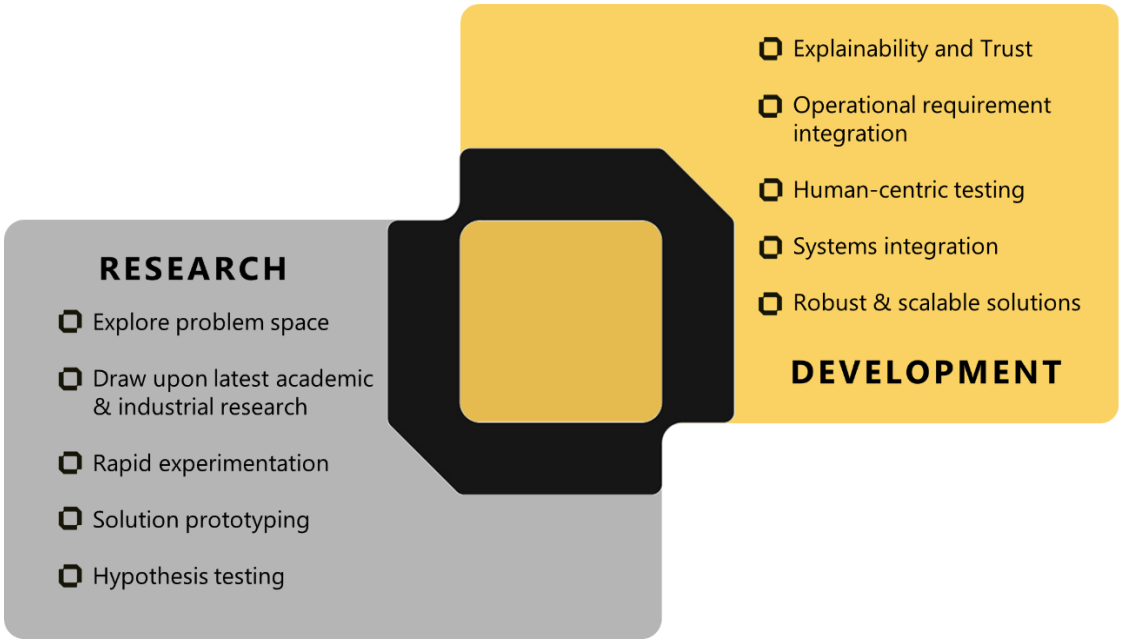

Figure 1. Our approach to solution development.

During this research phase, we rapidly prototype candidate technical approaches, typically adopting one-month sprints. This enables our combined customer and Origami Labs team to explore the spectrum of potential solutions and uncover implicit or unexpected constraints, refining the requirements and ensuring we're collectively aiming for the right solution.

Requirements relating to transparency, explainability, assurance and governance often arise during this phase of work, directly influencing the technology choices that follow.

As we narrow down the solution space and enter the development phase to iteratively mature the system, the process becomes more rigorous, performing in depth test and evaluation and putting in place the assurance and governance infrastructure as appropriate. We also focus on ensuring the system communicates effectively with users and stakeholders, creating a human-machine team that maximises the capabilities of both.

Our solutions encompass:

- Solution and technical architecture development.
- Identifying appropriate data sources.
- Data engineering and pipeline development.
- Algorithm and model design, implementation, training or tailoring based on state-of-the-art artificial intelligence and data science techniques.

- The development of effective human-machine interfaces that meet the needs of end users.
- Verification & validation of the system.
- Ongoing performance monitoring.

Our Technical Capabilities

Our team has deep experience of developing and deploying advanced automated or autonomous systems using a wide range of artificial intelligence and data science technologies including:

- Machine learning (supervised, unsupervised and semi-supervised).
- Logic and reasoning.
- Knowledge graphs.
- Natural language processing (LLMs and classical techniques).
- Optimisation.
- Data and signal processing.
- Statistical methods.

Figure 2. Our Capabilities

Our mastery of these technologies, when combined with our software engineering, systems engineering, safety and assurance expertise, can rapidly deliver transformational capabilities to our customers and users.

Features

- We're technology agnostic and offer impartial advice about what's possible.
- Experts in machine learning, whether supervised, unsupervised, or semi-supervised.
- Specialising in computer vision and biometrics using EO/IR and novel sensors.
- Experienced in knowledge graphs and reasoning for the real world.
- Exploiting and analysing LLMs for Natural Language Processing and interfaces.
- Leverage data analytics, prediction and optimisation for efficient operational capabilities.
- Ethical AI to enable transparent, explainable, assured and trusted decisions.
- A human-centric approach to technology selection and development.

- We adopt an agile, collaborative approach to our development projects.
- We work with the customer's available infrastructure, tooling and processes.

Benefits

- Rapidly transform the latest academic research into capability enhancements.
- Build trustworthy, assured and safe outcomes for mission critical applications.
- Customers are fully engaged throughout and own the outputs.
- Collectively deepen understanding of the true problem to be solved.
- Rapid prototyping uncovers hidden requirements or constraints by testing assumptions.
- Value for money and assured outcomes through our agile process.
- Integration with existing systems, data sources, processes, and infrastructure.
- Engage expert engineers who advance the state of the art.
- Leverage expertise and experience from across government and commercial sectors.
- Plan for, and development with future advances in mind.

Hosting Options

We will work with the customer's infrastructure, whether it's public cloud, private cloud or involves working with and connecting to on premises solutions or other non-cloud hardware.

Security

All of our staff hold government security clearance at SC or above.

Support

Support is available via email during office hours (Monday to Friday 0900 to 1700 excluding public holidays).

Disaster Recovery

We expect that the outputs we deliver are managed under the customer's existing backup and disaster recovery policies.

Access Upon Exit

We anticipate that solutions we create for our customers are owned by them and our service provides enough information and knowledge for them to continue to use and evolve it beyond the contract. Different intellectual property provisions may impact

this, however we would clearly agree any limitations or exit provisions with the customer prior to a contract being agreed.