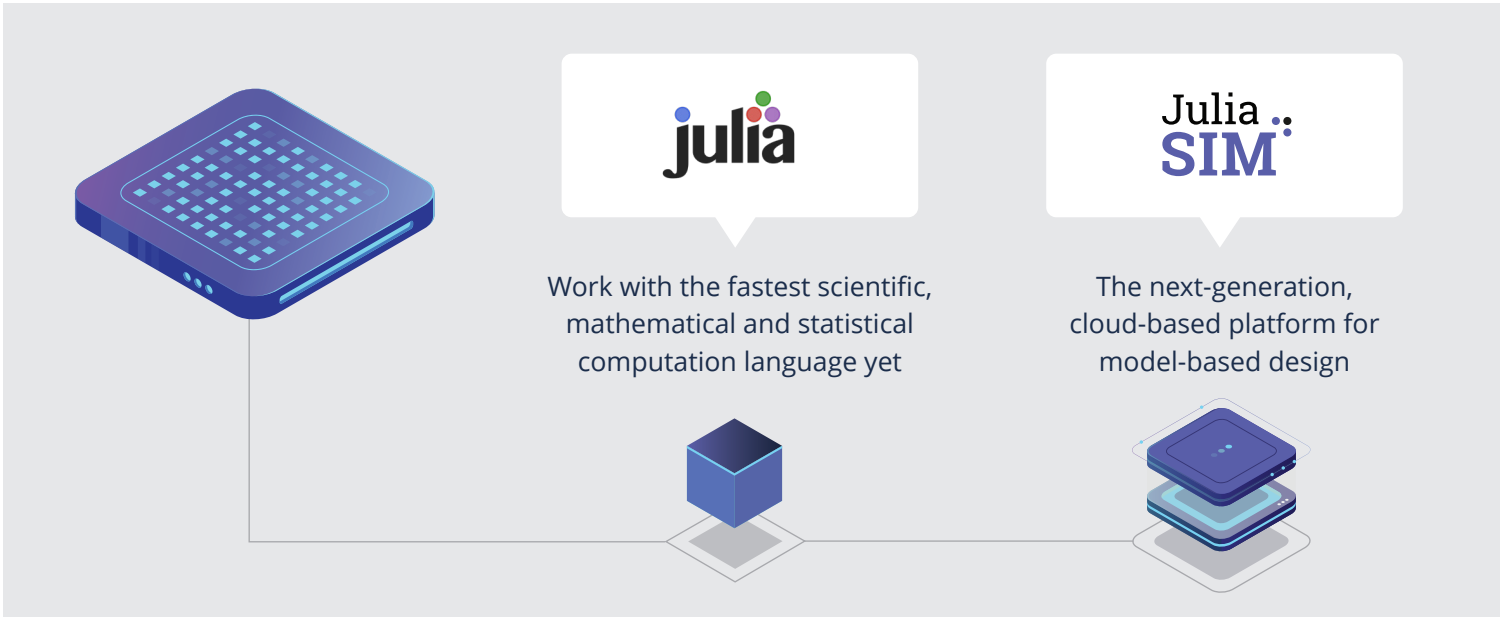
Julia SIM

Modeling and Simulation Services

Leveraging the power of Scientific Machine Learning with **Julia** and **JuliaSim**



Expertise from the driving force behind Scientific Machine Learning

Customers typically see enormous immediate gains in speed and productivity when they begin using Julia. But many have only begun to scratch the surface of how Julia can transform their business. JuliaHub works with you to identify how to maximize the value of Julia for your work. We work with you to define your requirements and the scope of work and then develop a custom work plan that meets your needs, your timeline, and your budget.

Legacy Technology Model Migration

Work with the JuliaHub team to migrate your existing models and code to take advantage of the inherent benefits of the Julia programming language and all the tools available on the JuliaHub platform. Our team can work with you so you can hit the ground running with these technologies.

Julia SIM

Professional Training - SciML and ModelingToolkit

Whether you come from a background with Simulink, Modelica, AMESim, etc., we can provide you with training that will get you up to speed with the ModelingToolkit open source libraries and other packages in the SciML ecosystem.

MTK Model and Component Development

ModelingToolkit.jl is a modeling framework for high-performance symbolic-numeric computation in scientific computing and scientific machine learning. It allows for users to give a high-level description of a model for symbolic preprocessing to analyze and enhance the model. The JuliaHub team can work closely with your organization to help define and integrate this powerful framework for next-generation, scalable physics-based models.

Battery Model Development and Validation

When it comes to analysis of battery duty cycles, we support a wide variety of use cases. Some groups have existing models that they would like to port over to the JuliaHub platform to improve performance. Others have real-world data from which they would like to create and calibrate battery models. Others still want to use scientific machine learning to explore new physics and chemistry. Whatever the use case, we are here to ensure your success.

HVAC Model Development and Validation

Our HVAC model library includes all the building blocks needed to analyze the performance of an HVAC system. Whether you want to build the models yourselves using our JuliaSim graphical modeling environment or whether you'd like us to create and validate the models for you, our platform provides a wide array of analysis capabilities to help accelerate your product development process.

Digital Twins, Surrogates and FMU Generation

If you already have models in hand, we can leverage our Digital Echo surrogate technology and FMU generation capabilities to help you maximize the value of your models.