Predictive Modelling of Multi-Physics Interaction

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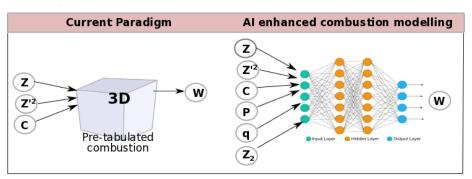
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Application of AI to combustion



- On-going collaboration between Prof Crowley and Prof Hickey
- Improving flamelet pre-tabulation by pre-training an N-dimensional DNN
- Address dimensionality problems in combustion modelling for complex flows (variable pressure, wall heat transfer, complex thermodynamics etc.)



Conclusion



 Multiphysics problems with supercritical flows encountered in many applications: energy production, nuclear engineering (SWCR), automotive engineering (diesel injection systems), aerospace propulsion

Thanks!