GIGALA

Engineering Design by
Artificial Intelligence

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Hello. I am Giorgi, ex subsea pipeline installation engineer, data science professional & founder at Gigala. I combine structural engineering and artificial intelligence to optimize designs for mechanical elements and components.

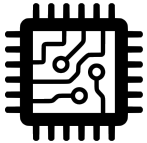
Mission

- The integration of AI-driven solutions and time-proven engineering analysis methods is a powerful step forward for sustainable future.

Our offerings

OFFSHORE INDUSTRY

- Subsea pipelines installation analysis software (static, dynamic 2D/3D, pipelay profile optimization, LLM agents to communicate with the software in natural language)



MECHANICAL ENGINEERING

- Topology optimization by reinforcement learning, genetic algorithms and classical gradient methods
- software for plastic deformation analysis (including electroplasticity)

Bonus offerings

SOCIAL MEDIA

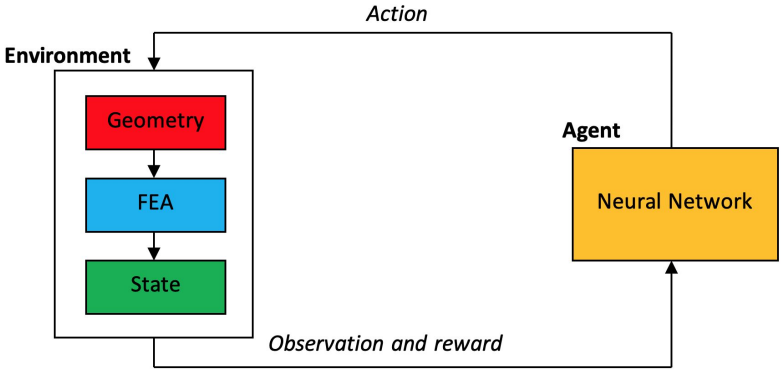
- Software to generate engaging posts to share on social media

NATURAL LANGUAGE PROCESSING

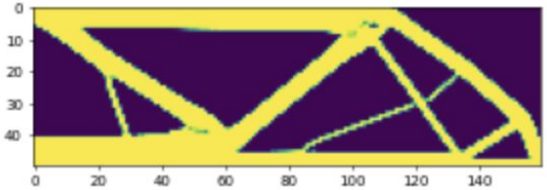
- Lightweight small size language models and chatbots

SOLUTIONS TO TEXTBOOKS

- Solutions to engineering and finite element analysis textbooks implemented in a programming code



Engineering design automation *can be formulated as Markov decision process (MDP). where an engineer provides initial geometry of a structure, sets loads and allowed actions to alter the geometry, specifies the optimization objective (e.g. minimize weight, maximize stiffness), and starts training the model. After the training, in inference stage, the engineer gets her final design. This process can be augmented by recent developments in Generative AI.*



ENGINEERING DESIGN SOFTWARE

- Mechanical elements
- Offshore structures
- Pipelay profiles
- LLM Agents to interface a software

AI DRIVEN ENGINEERING

demo

You can find and try our solutions at

GitHub follow the link or QR-code

Technologies

Writing high quality
CODE

State-of-the-art
TECHNOLOGIES

No/low
DATA

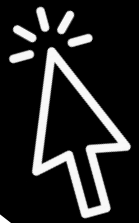
Verified
SIMULATION

Ready to take your design technologies to the next level? Contact us!

FB
https://www.facebook.com/GigaTsk/

LinkedIn
https://linkedin.com/in/gigatskhondia

gigatskhondia@gmail.com



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