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# Spacecraft thermal in general

Xiong, Y., Guo, L., Zhang, Y., Xu, M., Tian, D., & Li, M. (2022). Surrogate modeling for spacecraft thermophysical models using deep learning. *Neural Computing and Applications*, 34(19), 16577-16603.

MANCA, L. (2019). Machine learning for thermal simulation: data-driven thermal models applied to Euclid spacecraft.

Tanaka, H., & Nagai, H. (2023). Data-driven thermal state estimation for in-orbit systems via physics-informed machine learning. *Acta Astronautica*, 212, 316-328.

# Re-entry specific

Strembovskiy, V., & Dreus, A. (2024). Identification of heat loads on space objects re-entering the Earth's atmosphere using machine learning methods. *Journal of Rocket-Space Technology*, 33(4-29), 65-73.

Salmaso, F. (2021). Machine learning model for uncontrolled re-entry predictions of space objects and feature engineering.

Gkimisis, L., Dias, B., Scoggins, J. B., Magin, T., Mendez, M. A., & Turchi, A. (2023). Data-driven modeling of hypersonic reentry flow with heat and mass transfer. *AIAA Journal*, 61(8), 3269-3286.

Salmaso, F., Trisolini, M., & Colombo, C. (2023). A machine learning and feature engineering approach for the prediction of the uncontrolled re-entry of space objects. *Aerospace*, 10(3), 297.

# Aerodynamics

Elrefaie, M., Morar, F., Dai, A., & Ahmed, F. (2024). Drivaernet++: A large-scale multimodal car dataset with computational fluid dynamics simulations and deep learning benchmarks. *Advances in Neural Information Processing Systems*, 37, 499-536.

Li, J., Du, X., & Martins, J. R. (2022). Machine learning in aerodynamic shape optimization. *Progress in Aerospace Sciences*, 134, 100849.

Ravelli, U., & Savini, M. (2018). Aerodynamic simulation of a 2017 F1 car with open-source CFD code. *J. Traffic Transp. Eng*, 6(4), 155-163.

# Network science in finance and economics

The global financial system can be represented as a large complex network in which banks, hedge funds and other financial institutions are interconnected to each other through visible and invisible financial linkages.

- Breakdown of this link, diversification, propagation of risk. Findings on default cascades to bilateral exposures to overlapping portfolios

## Banking:

The dynamic structure of the model is represented as a set of differential equations. This dynamic structure allows us to analyse systemic risk and also to incorporate an analysis of control mechanisms.

Uncertainty is introduced in the system by applying stochastic shocks to the bank deposits, which are assigned as an exogenous signal. The behaviour of the system can be analysed for different initial conditions and parameter sets.

## Using core- periphery

Core-periphery structure, the arrangement of a network into a dense core and sparse periphery, is a versatile descriptor of various social, biological, and technological networks.

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Caccioli, Fabio, Paolo Barucca, and Teruyoshi Kobayashi. "Network models of financial systemic risk: a review." *Journal of Computational Social Science* 1.1 (2018): 81-114.

Bazzi, M. Community Structure in Temporal Multilayer Networks, and Its Application to Financial Correlation Networks. University of Oxford, 2016.

Allen, Franklin, and Ana Babus. "Networks in finance." *The network challenge: strategy, profit, and risk in an interlinked world* 367 (2009).

Nagurney, Anna. "Networks in finance." *Handbook on Information Technology in Finance*. Springer, Berlin, Heidelberg, 2008. 383-419.

### Money laundering

Savage, David, et al. "Detection of money laundering groups using supervised learning in networks." *arXiv preprint arXiv:1608.00708* (2016).

Shen, Yeming, et al. "Interdicting interdependent contraband smuggling, money and money laundering networks." *Socio-Economic Planning Sciences* 78 (2021): 101068.

### Journal

Network theory in Finance

<https://www.risk.net/journal-of-network-theory-in-finance>

# Spam and fake news

Shehnepoor, Saeedreza, et al. "NetSpam: A network-based spam detection framework for reviews in online social media." *IEEE Transactions on Information Forensics and Security* 12.7 (2017): 1585-1595.

Jang, S. Mo, et al. "A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis." *Computers in Human Behavior* 84 (2018): 103-113.

Ciampaglia, Giovanni Luca. "Fighting fake news: a role for computational social science in the fight against digital misinformation." *Journal of Computational Social Science* 1.1 (2018): 147-153.

Shrivastava, Gulshan, et al. "Defensive modeling of fake news through online social networks." *IEEE Transactions on Computational Social Systems* 7.5 (2020): 1159-1167.

Benamira, Adrien, et al. "Semi-supervised learning and graph neural networks for fake news detection." *2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*. IEEE, 2019.

Nguyen, Van-Hoang, et al. "Fang: Leveraging social context for fake news detection using graph representation." *Proceedings of the 29th ACM international conference on information & knowledge management*. 2020.

Sivasankari, S., and G. Vadivu. "Tracing the fake news propagation path using social network analysis." *Soft Computing* (2021): 1-9.

Shu, Kai, H. Russell Bernard, and Huan Liu. "Studying fake news via network analysis: detection and mitigation." *Emerging research challenges and opportunities in computational social network analysis and mining*. Springer, Cham, 2019. 43-65.

# More specific, now ML

Sultana, N., Shoha, S., Dolon, M. S. A., Al Shiam, S. A., Zakaria, R. M., Shimanto, A. H., ... & Abir, S. I. (2024). Machine Learning Solutions for Predicting Stock Trends in BRICS amid Global Economic Shifts and Decoding Market Dynamics. *Journal of Economics, Finance and Accounting Studies*, 6(6), 84-101.

Chatzis, S. P., Siakoulis, V., Petropoulos, A., Stavroulakis, E., & Vlachogiannakis, N. (2018). Forecasting stock market crisis events using deep and statistical machine learning techniques. *Expert systems with applications*, 112, 353-371.

Xiu, W. (2024). Using Machine Learning Models to Predict Economic Recession Caused by COVID-19. *Journal of Financial Risk Management*, 13(1), 108-129.