REFERENCES

[1] A. Araque, V. Parpura, R. P. Sanzgiri, and P. G. Haydon, "Tripartite synapses: glia, the unacknowledged partner," *Trends in Neurosciences*, vol. 22, p. 208–215, May 1999.

[2] N. A. Oberheim, T. Takano, X. Han, W. He, J. H. C. Lin, F. Wang, Q. Xu, J. D. Wyatt, W. Pilcher, J. G. Ojemann, B. R. Ransom, S. A. Goldman, and M. Nedergaard, "Uniquely hominid features of adult human astrocytes," *The Journal of Neuroscience*, vol. 29, p. 3276–3287, Mar. 2009.

[3] A. B. Chen, M. Duque, A. Rymbek, M. Dhanasekar, V. M. Wang, X. Mi, L. Tocquer, S. Narayan, E. M. Legorreta, M. Eddison, G. Yu, C. Wyart, D. A. Prober, F. Engert, and M. B. Ahrens, "Norepinephrine changes behavioral state through astroglial purinergic signaling," *Science*, vol. 388, no. 6748, pp. 769–775, 2025.

[4] A. N. McCaughan, B. G. Oripov, N. Ganesh, S. W. Nam, A. Dienstfrey, and S. M. Buckley, "Multiplexed gradient descent: Fast online training of modern datasets on hardware neural networks without backpropagation," *APL Machine Learning*, vol. 1, p. 026118, 06 2023.

[5] R. O'Loughlin, B. Oripov, N. Skuda, N. Chongsiriwatana, I. Whitehouse, W. Losert, B. Hayes, A. McCaughan, and S. Buckley, "δ multiplexed gradient descent: Perturbative learning with astrocytes," in *Proceedings of the IEEE Conference on Neuro-Inspired Computational Elements (NICE)*, 2026.

[6] H. Kang and W. Losert, "Rhythmic sharing: A bio-inspired paradigm for zero-shot adaptive learning in neural networks," 2025.

[7] B. Zong, Q. Song, M. R. Min, W. Cheng, C. Lumezanu, D. Cho, and H. Chen, "Deep autoencoding gaussian mixture model for unsupervised anomaly detection," in *International Conference on Learning Representations*, 2018.

[8] J. Audibert, P. Michiardi, F. Guyard, S. Marti, and M. A. Zuluaga, "Usad: Unsupervised anomaly detection on multivariate time series," in *Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, KDD '20, (New York, NY, USA), p. 3395–3404, Association for Computing Machinery, 2020.

[9] F. Wang, K. Wang, and B. Yao, "Time series anomaly detection with reconstruction-based state-space models," in *Artificial Neural Networks and Machine Learning – ICANN 2023* (L. Iliadis, A. Papaleonidas, P. Angelov, and C. Jayne, eds.), (Cham), pp. 74–86, Springer Nature Switzerland, 2023.

[10] C. Feng and P. Tian, "Time series anomaly detection for cyber-physical systems via neural system identification and bayesian filtering," in *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining*, KDD '21, (New York, NY, USA), p. 2858–2867, Association for Computing Machinery, 2021.