Resources

For CNN learning and code:

<https://pyimagesearch.com/2021/07/19/pytorch-training-your-first-convolutional-neural-network-cnn/>

For ECG ML Model understanding:

Alfaras, M., Soriano, M. C., & Ortín, S. (2019). A fast machine learning model for ECG-based heartbeat classification and arrhythmia detection. Frontiers in Physics, 7, 103. https://doi.org/10.3389/fphy.2019.00103

Cheng, J., Zou, Q. & Zhao, Y. ECG signal classification based on deep CNN and BiLSTM. *BMC Med Inform Decis Mak* 21, 365 (2021). <https://doi.org/10.1186/s12911-021-01736-y>

Ebrahimi, Z., Loni, M., Daneshtalab, M., & Gharehbaghi, A. (2020). A review on deep learning methods for ECG arrhythmia classification. Expert Systems with Applications, X, 100033. <https://doi.org/10.1016/j.eswax.2020.100033>

H. Nursalim, A. Bustamam, Hermawan and D. Sarwinda, "Classification of Electrocardiogram Signal Using Deep Learning Models," 2023 International Conference on Computer Science, Information Technology and Engineering (ICCoSITE), Jakarta, Indonesia, 2023, pp. 767-772, doi: 10.1109/ICCoSITE57641.2023.10127690.

M. Chourasia, A. Thakur, S. Gupta and A. Singh, "ECG Heartbeat Classification Using CNN," 2020 IEEE 7th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), Prayagraj, India, 2020, pp. 1-6, doi: 10.1109/UPCON50219.2020.9376451.

OpenAI. (2025). ChatGPT (Feb 28 version) [Large language model]. <https://openai.com>