

Title: Machine Learning Quantitative Research Internship

Location: Macro Hive (London/UK Based)

Duration: 6 weeks

Overview:

Macro Hive is a leading independent provider of global macro and financial market research. Our team of experienced researchers leverage quantitative techniques and cutting-edge technologies to develop innovative and data-driven solutions to complex financial problems, helping our clients make informed investment decisions and stay ahead of the competition.

We are seeking talented, motivated interns with solid technical skills to work with us in our Quantitative Research team focusing on applications of machine learning to finance. This will include researching alpha signals and building state-of-the-art machine learning models across various asset classes.

You should be in your final year of studies in a quantitative field from a top-tier university with the right and availability to work full-time in the UK (if successful) from September 2023. High proficiency (a day-to-day user) in Python programming and experience with machine learning (ML) is essential. Any expertise in deep learning (DL) or natural language processing (NLP) would be a big bonus – we use all the latest technologies including LLMs and the OpenAI tech stack.

Responsibilities:

- **Research:** working alongside researchers on end-to-end research projects, including on data analysis, alpha generation, trading models, and indicators.
- **Development:** building and enhancing tools for the quant and data workflow.
- **Data:** sourcing new alternative data sets for the quant and data workflow.

This will include:

- Analysis of financial data sets using advanced modelling and machine learning techniques.
- Helping implement and improve existing models and algorithms.
- Helping prepare and deliver research reports to clients.
- Staying up to date with the latest developments in ML, time series analysis, and quant finance.

Qualifications:

Required:

- **Right to work in the UK:** Macro Hive does not sponsor visas at this moment.
- **Education:** BSc/MSc/PhD in a technical degree, including but not limited to Mathematics, Quantitative Finance, Physics, Computer Science, or Engineering.
- **Machine Learning:** Experience working with machine learning models (Decision Trees, Random Forests, XGBoost, etc.) for supervised regression and classification tasks. Knowledge of unsupervised learning, NLP (transformers etc.), and deep learning frameworks (TensorFlow, PyTorch etc.) and architectures for sequential data (RNN, LSTM etc.) is a big plus.
- **Statistical Analysis:** you should have a good foundation in statistics and be comfortable with time series analysis, hypothesis testing and regression analysis etc.
- **Python:** You should be highly proficient in Python programming using the ML/scientific stack: NumPy, Pandas, scikit-learn etc.
- **Problem Solving:** Ability to clearly convey data-driven ideas for complex problems and translate them to clean, robust, and efficient code.

Desirable:

- Experience with object-oriented Python.
- Experience with web-scraping.
- Experience with cloud services (Azure preferred) and DevOps tools (Git, Docker etc.)
- Experience working with financial data or trading models.