Lissan Koirala

/lissankoirala

PROFILE

Strong passion for problem-solving which extends beyond any specific field. Finds immense satisfaction in applying analytical and technical skills to undertake projects that showcase the ability to adapt and excel in different domains. Examples include backtesting financial models, Newtonian simulation of the solar system, and a robotics head project integrating software with mechanical components. The multidisciplinary nature of these projects demands a versatile learning approach and has encouraged the development of transferable skills making me well-suited for roles where adaptability is valued.

EDUCATION

Physics with Astrophysics MSci, King's College London **Sep 2023 - Jun 2027**

Predicted 1:1 (First Class Honours)

Modules: Maths and Computation for Physics, Classical, Thermal, Modern, Experimental Physics, Astrophysics, Stellar Evolution, Numerical Modelling *(Extra module taken, covering machine learning)*

Bexley Grammar School, Sixth Form **Sep 2021 - Aug 2023**

International Baccalaureate (IB) - 40 points | HL: Mathematics, Physics, Computer Science

EXPERIENCE

King's Undergraduate Research Fellowship

Research Assistant (Part-time) **Nov 2024 - Present**

· Offered a position at the RRAI Lab to continue the summer research project; currently evaluating extensions.

· Developing infrastructure to enable NGOs to effectively implement and integrate the research into their operations.

Research Fellow **Jul 2024 - Oct 2024**

· Developed computer vision algorithms to assist NGOs in scene detection and analysis.

· Researched and implemented various models to detect behavioural actions and created an algorithm to score and encompass multiple label detections to identify scenes of interest using IoU overlaps.

· Trained a custom model to detect police officers, optimised for deployment on edge devices.

· Gained experience in deep learning, and environment management on King's high-end GPU servers.

Optiver's Optibook Competition, Edinburgh **Mar 2024**

· Created a multi-threaded LLM classifier on news sentiment & ticker relevance to handle high-frequency tweets.

· Highest PnL, 30% higher than the runner-up model, alongside minimal highest drawdown.

· Integrated risk management with position size dynamically variant on a standard deviation of tick prices.

· Accompanied with a trailing stop loss mechanism with threads monitoring open positions adhering to maximum risk exposure to avoid premiums on force closed positions.

Algorithmic Trading Project **[live at: algo.lissan.dev]** **Nov 2021 - Present**

· Researched and deployed a full-stack application to execute a fully algorithmic trend-following trading strategy.

· Incorporated real-time data streaming, economic event awareness, and multi-asset position management.

· Designed a custom exponential algorithm to size positions, with risk variant on current market conditions with gained insights from books and experience, and further analysis of statistics from past trade.

· Built dashboards to monitor logs, performance metrics, and visualise trade executions through video timelapses.

· Evaluated optimisation results from backtesting scripts that mimic live trading behaviour to choose parameters.

Hackathons **Sep 2023 - Present**

· Proactively participated in numerous hackathons at universities across the country.

· Forgoing sleep, have demonstrated dedication to learning new technologies on the fly, in a time-constrained environment.

· Frequently took on a leadership role, actively organising tasks and communicating complex ideas effectively with team members, contributing to a fun, multiple award-winning experience.

· Worked on various projects, including a sign language detection model, optimising algorithmic trading for Sharpe ratio, a news sentiment analyser for trades and a university-exclusive dating site.

· Collaborated with individuals from diverse backgrounds, building strong interpersonal connections to work under pressure.

+ Participated in PLANKS, a 3-day physics competition for undergraduate and master's students, held in Surrey.

SKILLS

Full Stack Development · Python, Java · Proficiency in Linux systems & Cloud Computing/Hosting, Apache · Flask, Django, Websocket, API, Web Scraping, SQLite, Git, HTML/CSS/JS · Financial backtesting, Risk management · Bloomberg Markets Concepts *(Certification)*

LANGUAGES

English [Native] · Nepali [Native] · Portuguese [Fluent] · Hindi [Conversational] · Spanish [limited working proficiency]