

ChaosTheoryLabs

Senior Software Engineer

AI, Automation & Quantitative Systems

Company: Chaos Theory Labs, *part of BleuBox Group Limited*

Reports to: Head of Artificial Intelligence

Location: Remote, with regular in-person Company Days

Experience Required: Minimum 5 years commercial experience

Salary: £65 - £80k based on experience, plus bonus.

ABOUT THIS ROLE

We are looking for an exceptional Senior Software Engineer, ideally with a strong academic foundation in Quantitative Mathematics, Computer Science, Data Science or a related discipline to join our growing team at Chaos Theory Labs. This is a broad generalist role spanning the full technology stack, from system design and software delivery to automation, data, AI/ML and algorithm optimisation.

Chaos Theory Labs is the innovation hub of our group of companies, responsible for the design and deployment of Machine Learning, Automation Technologies, and improved User Experiences across our organisation. This means we handle numerous greenfield projects, and tackle challenges from first principles after evaluating the business need, existing processes, and existing solutions that may be cheaper or faster to deliver the results.

THE OPPORTUNITY

This role suits an entrepreneurial engineer who enjoys owning projects from discovery through to production. You will balance maintainability, delivery timelines and commercial value, communicate directly with users and stakeholders, and help shape engineering standards as the team grows.

The role offers a genuine pathway towards Staff Engineer for someone who demonstrates strong technical judgement, ownership and leadership. Experience in finance, fintech, trading systems, quantitative software or LLM customisation is advantageous.

WHAT YOU'LL GAIN

- **Build from the ground up** - shape future projects across our company group rather than inherit a mature legacy stack.
- **Breadth and development** - work with a multi-skilled team across software engineering, automation, data, AI/ML and quantitative projects.
- **Autonomy and trust** - recommend technologies, architecture and improvements based on evidence and commercial value.
- **Leadership potential** - grow towards Staff Engineer and take increasing ownership of technical direction, mentoring and delivery.

COMPANY BENEFITS

- Company bonus scheme
- Generous 31 days annual leave entitlement, plus a day for your birthday
- Regular in-person Company Days
- Employee Assistance Plan
- Health care

SKILLS AND QUALIFICATIONS

Education

A degree (or equivalent experience) in Computer Science, Mathematics, Data Analytics /Science, or another related quantitative discipline

Programming Languages

Expert knowledge C++, with proficiency in at least another programming language e.g. Python, C#, Go, or Rust.

Essential Skills

Core Software Engineering

- Strong commercial experience designing, building, testing and maintaining production software.
- Excellent knowledge of data structures, algorithms and performance trade-offs.
- Proficient with Git and collaborative development workflows.
- Strong understanding of design patterns, clean code, pragmatic engineering and YAGNI.
- Expertise in unit, integration and regression testing.
- Experience with SQL databases such as PostgreSQL or MySQL, including schema design and query optimisation.
- Experience building and consuming RESTful APIs and/or GraphQL.
- Experience with profiling, caching strategies, performance tuning and production debugging.

- Ability to own projects from requirements and architecture through deployment, monitoring and iteration.

Data, Mathematics and Algorithms

- Strong analytical and problem-solving skills, including algorithm design.
- Experience with data analysis, statistical inference and statistical computing libraries such as NumPy and SciPy.
- Understanding of statistical modelling; Bayesian modelling is desirable.
- Ability to develop predictive models, simulations or digital twins where appropriate.

Artificial Intelligence and Machine Learning

- Experience developing, evaluating and validating machine-learning models.
- Experience with data preprocessing and production AI/ML pipelines.
- Experience with TensorFlow, PyTorch, scikit-learn or equivalent frameworks.
- Knowledge of optimisation approaches such as genetic algorithms is desirable.
- Experience with deep-learning architectures or LLM fine-tuning/customisation is desirable rather than mandatory.

Infrastructure and Automated Systems

- Experience designing and maintaining automated workflows and production services.
- Experience deploying and monitoring AI models or data-driven services.
- Working knowledge of Docker, Kubernetes, CI/CD and Infrastructure as Code.
- Experience with AWS, Azure or Google Cloud Platform.
- Understanding of distributed systems, microservices, message queues and event-driven architectures.
- Knowledge of systems thinking, reliability, feedback loops and risk assessment.

Desirable Skills

Financial Markets and Trading

- Experience developing or optimising trading or quantitative algorithms.
- Experience with market-data feeds, broker APIs or order-execution systems.
- Knowledge of back-testing frameworks and quantitative trading strategies.
- Understanding of equities, derivatives, futures or market microstructure.

PERSONAL ATTRIBUTES

- Entrepreneurial, curious and comfortable solving ambiguous problems from first principles.
- Strong communicator who can explain technical trade-offs to non-technical stakeholders.
- Pragmatic about build-versus-buy decisions and focused on measurable business outcomes.
- High ownership, attention to detail and willingness to support systems after deployment.
- Able to work autonomously while contributing constructively to team standards and code review.