

I'm an engineer with a passion for trading environments and enjoy solving high-tech problems at scale

Skills

- Markets**
- **Products** – cash equities, derivatives, index arb and delta one knowledge
 - **Flow** – familiar with order routing, slippage, latency and other market plumbing
 - **Trading** – multi-fund experience supporting risk-takers and appreciation for timeliness
- People**
- **Managing** small, nimble engineering-focused groups
 - **Rapid learner** confident to work with minimal guidance, to lead and to be led
 - **Hands-on delivery of sensitive projects** through to completion
 - **Attention to subtle details** in both engineering and stakeholder delivery
 - **Communication, ownership and organisation skills** from hedge funds and the police
- Automation**
- APIs for servers to fully “build themselves” with just a MAC address**
- Building secure internal APIs with FastAPI and SQLAlchemy
 - PXE: VLANs, DHCP and DNS for the networking side; FTP and TFTP for distribution
 - Kickstart/bash; Puppet for more advanced configuration management
 - CA/PKI infrastructure implementations
- Monitoring**
- Prometheus, Grafana and alerting**
- Built a monitoring solution with beautiful visualisations, processing 2B+ samples/day
 - Built a custom alerting system to “speak” alert messages to engineers’ mobile phones
- Compute**
- Kubernetes**
- Built fully on-prem clusters with MetalLB, Cilium, Longhorn and Helm
 - Competent with VxLAN, eBPF, network policy, cluster security and system integrity
- Grid and quant tech**
- Building ZFS + kerberized NFSv4 solutions for large-scale file storage
 - Linux kernel fundamentals, OS tuning and general system / application debugging
 - General IP networking, minor InfiniBand knowledge
- Hardware**
- NVMe, RAID controllers, SAN hardware and multi-system backup implementations
 - SolarFlare cards, Nexus deployments, some firewall vendor knowledge
 - Good knowledge across various design options for VDI, HPC and core infra
- Enterprise systems**
- Mail and databases**
- Built a highly available Exchange + Postfix deployment; SME for all production issues
 - Built Microsoft SQL Server and MySQL clusters and standalone deployments
- InfoSec**
- Protocols, tools and policy**
- SAML, AD FS, Kerberos, GSSAPI; dot1x and cert-based auth systems
 - Canaries, implementing TLS decryption and DLP tooling
- Development**
- Languages and DevOps**
- Competent in Python 3 (mostly for building APIs), Puppet and bash
 - Written PowerShell modules for managing Exchange servers
 - Familiar with CI/CD pipelines for automatic testing and deployment from git

Employment

- 2022 – 23 **Vice President, Head of Linux Engineering – Eisler Capital**
- Worked under the CTO for delivering global architecture of the firm’s Linux systems
 - Built the firm’s monitoring stack from scratch, scraping every server, switch and PC
 - Built a Grafana “alerts-to-speech” tool used by traders, strats and infra staff firmwide
 - Migrated all trading servers to a different Linux distribution without downtime
 - Debugged production issues across storage, networking and prop trading apps for PMs
 - InfoSec and networking lead for Linux to the Head of Infrastructure
 - Directly involved in budgeting, compliance, audits and business strategy
 - Co-ordinated vendors and managed projects for global network / DC expansions
 - Contact point for PMs requiring custom solutions for mid-freq. systematic trading
- 2019 – 22 **Systems Administrator – D. E. Shaw & Co.**
- Front office trading systems support for PMs and Executive Committee
 - Led a data centre buildout and global network expansion in London and Luxembourg
 - Managed hundred-petabyte-scale parallel storage and a global network covering low latency systems, arbitrage platforms and a quant simulation grid for thousands of users
 - Owned and delivered our London COVID-19 technology response
 - Manned the Global Systems Helpdesk from London for 2 days/wk, providing efficient support and ownership-to-the-end of problems
 - Managed critical incidents by coordinating engineers, managers and trading ops staff
 - Co-ordinated the London response to a major unannounced firmwide DR test
- 2018 – 19 **IT Engineer – Rokos Capital Management**
- Trading systems support for the CIO and all other desks covering a broad tech stack
 - Fixed time-critical operational issues on broker platforms and internal systems

Education & Awards

- 2017 – 18 **Management (MLitt), University of St. Andrews** (*Distinction and Dean’s List*)
- Built multilayer perceptron neural network model for dynamic personalised pricing
 - Thesis showed how shopping baskets could infer disposable incomes of retail shoppers
- 2014 – 17 **Computer Science (BSc), Durham University** (*11.i Hons., Course Rep, Faculty Rep for Science*)
- NLP dissertation, HFT hackathon winner
 - Strong performance across a variety of modules
 - Faculty Rep for UG Science (3rd Year), Course Rep for CS (1st Year and 2nd Year)
- 2009 – 14 **IGCSEs/A-Levels, King William’s College/Ballakermeen High School** (*A* - B range*)
- Deputy Head Boy
 - 4x UKMT maths awards; school prizes for physics, chemistry, business and geography

Volunteering

- 2021 – present **Special Constable (Police Officer) – Slough LPA, Thames Valley Police**
- Attend any job originating from a 999 call, such as domestic abuse and missing persons
 - Have gained considerable investigative, people management and communication skills