

Alex Benn

Principal Engineer • Scientific Software

Oxfordshire, UK • remote or hybrid • permanent, or contract via Open World Scientific

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Summary

Twenty-plus years building scientific software in pharma and biotech. At GSK I lead product and architecture for production assay, registration and scientific data platforms.

Outside that I built Chain of Thought end to end, alone: execution-graph state, typed scientific objects, MCP tools, chemistry, docking, genomics and structure.

Experience

2020-Present Principal Engineer • Product & Architecture • GSK, UK

Work described here is GSK-internal. Figures are rounded and cleared for external discussion; system details are generalised.

- Production assay data platform consolidating structured plate and imaging results.
- Key technical contributor to the BigQuery scientific data platform for discovery informatics.
- Modular client framework used across discovery applications beyond the ones I shipped.
- Alliance and asset-restriction system: policy in the query path, fail closed.
- Production pipelines behind registration and assay ingest.

2014-2020 Enterprise Solutions Architect • GSK via Cognizant, UK

- High-content screening web application processing terabytes of imaging data.
- Biological registration deployment; data validation and submission platform.
- Architecture advisory for enterprise lab notebook and inventory integrations.

2008-2014 Solutions Consultant • Enterprise Informatics • Accelrys (Biovia), Cambridge, UK

- N-tier web system managing 1M+ data points; LSHTM high-throughput image analysis (PLoS NTD).

2007-2008 Database & UI Specialist • Imagineer Systems, Guildford, UK

2004-2007 Platform Architect • Drug Discovery • Siena Biotech, Siena, Italy

- Nucleo virtual screening platform (C++, Qt, Oracle, Sun Grid Engine).

2001-2004 Scientific Software Engineer • Incenta / Amura, Cambridge, UK

- Q-Dock (GAMESS QM/MM docking); Focus assay visualisation (published papers).

Selected evidence

Chain of Thought: graph-native scientific investigation prototype. 237 RDKit descriptors as BigQuery remote functions; batch docking 5,000-50,000 compounds on Cloud Run; audit ledger with version, build ID, image URI, git commit. Built alone.

Architectural notes: openworldscientific.org/architecture

Capabilities

Scientific data platforms • Cheminformatics & structural computing • Agentic AI for science

Architecture & technical direction • Go, TypeScript, Python, C++, React, GCP, Terraform

Open World Scientific Ltd is the company I contract through.