

Graham David Alexander King

CONTACT INFORMATION

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SKILLS

**Software engineering, technical leadership, AI inference, distributed systems.
Rust, Linux.**

EDUCATION

Imperial College of Science, Technology and Medicine, University of London 1994-1998

- MEng in Computing (Artificial Intelligence and Knowledge Engineering)
- Final year project: Intelligent Mobile Robotics: A reactive approach to control systems for simple sensor robot teams.

1st Prize, European Programming Championship, under-18 category, Paris, France. 1994

EMPLOYMENT HISTORY

Senior Software Engineer, NVIDIA 2022 - Current

Software Engineer, Dropbox 2021 - 2022

Working in Rust on the core sync engine, the heart of the Dropbox desktop app.

Highlights: Started performance measurement sub-team. Saved over \$250k / year in compute and storage costs by rebuilding observability tools to use metrics instead of events, and by finding and removing unused test suites. Halved primary and secondary on-call queues. Fixed all Rust lints, across teams and projects.

- Manager: "Graham is a strong communicator and great team player." "He has super strong technical and programing skills."
- Peer 1: "Graham ramped up very quickly on the fix for [critical bug] and was immediately able to make important contributions."
- Peer 2: "Graham is one of the nicest folks I've met at Dropbox."

Engineering Lead, Screenleap <https://screenleap.com> 2015 - 2021

Easy low-latency screen sharing (try it!). Y Combinator funded. Very small distributed team. Screenleap is a low-latency distributed system for state sharing.

Principal developer of back-end services (Go), WebRTC conferencing server (Rust), web front-end (Typescript), Ops tools, and integration and end-to-end tests.

Highlights include building a video encoder with ffmpeg, building server auto-scaling tools, and auditing the whole platform for security (many defense-in-depth improvements). With founder, handled all releases and production SRE (CentOS, Prometheus, Packer, etc). Multi-cloud hosted on Google Cloud and Digital Ocean.

Quadrupled daily screen share numbers, reduced share latency from multi-second to milliseconds, scaled to hundreds of live viewers. Customers say: "absolutely the best of its kind", "easy to operate and marvelously efficient", "easiest screen sharing app", "my clients absolutely love it. wish I had used this years ago".

Thomson Reuters 2013 - 2015

We built Nitro, the instant messaging server (XMPP and SIP protocols) which powers Eikon Messenger, the busiest chat system in finance (6 million messages / day). I wrote the bulk of the XMPP side (Go), working in a distributed team of six.

Nitro is a cluster of servers running our Go application, with Redis and MySQL storage. Highlights for me have been implementing zero-downtime restarts, faster inter-cluster messaging, pure-Go XML parsing, implementing tens of XEPs (the XMPP equivalent of RFCs), and handling major refactorings in an extremely change-averse environment.

Lincoln Loop

2011 - 2013

Lincoln Loop are the Django experts. For our clients I did full-stack web work, from system administration and performance (Ubuntu Linux, MySQL, Redis), up through back-end (Python w/ Django, Go) and front-end development (JS w/ jQuery and Backbone, CSS3, HTML5). Major clients I have worked with are Future Publishing (for GamesRadar.com) and Broadway.com.

I also wrote for the Lincoln Loop blog on topics such as the psychology of motivation, SPDY (now HTTP/2), and WebRTC.

Freelance, Fablistic.com.

2009 - 2011

"Find new things to do and places to go based on recommendations from people like you. Save all your product and place reviews in one place. Share with friends."

Two year freelance project, doing everything from server (Ubuntu Linux) and database (MySQL) setup and admin, through Python / Django development, up to the Javascript front end and the HTML / CSS. A Python daemon, connected to the site via Gearman, computes similar users, calculates recommendations, and pulls and pushes data to / from Facebook, Twitter, Amazon, and many other sites.

The technology stack is Nginx, Memcached, Apache mod_wsgi, and MySQL. We used Sphinx for search, and Gearman for messaging / job dispatch. Acquired by Local.com.

Co-Founder, Good Energy.

2009 - 2010

Startup I co-founded focused on pro-environmental behavior change. As the technical co-founder, I did everything except the design: Hosting and database setup and management on Linux and MySQL (at Linode), Python / Django back end development, and Javascript / jQuery / HTML / CSS front-end development. I also dug deep into social psychology and behavioral economics, as applied to web-based systems.

Freelance, Sprowtt Marketplace.

2009

Crowd-sourced venture capital marketplace. Launched at TechCrunch 50.

Web Developer, Pacifica Group LLC.

2008 - 2009

Pacifica Group LLC, a subsidiary of KBC Financial Products, specializes in life insurance derivatives, and via it's subsidiary EquityKey, in real-estate / life-insurance crossover derivatives.

Working from home on my own, I architected, built and managed pacificallc.com, equitykey.com, and several exploratory internal-only webapps. They are all Python with Django running in Apache, with MySQL on Solaris. The EquityKey front-end uses Yahoo's YUI Javascript library. Server-side messaging uses Tibco's RendezVous from Python.

Senior Software Engineer, KBC Financial Products.

2003 - 2007

In a team of two, we designed, built and maintained all of KBCFP's web and server-side applications.

We built a trading / reporting application for the new Fund Derivatives (Funds of Funds) business in Java / Struts / Hibernate. We designed test-first using JUnit and mock objects, coded as a pair, and interacted with the key users as we went. Aside from the browser, the server has a Swing client which talks COM to Outlook, and clients/interfaces in Excel, C# and Jython.

I introduced Python and Django, with which we built an application for H.R. to handle all the firms recruitment, the KBC AIM and KBC Alpha hedge fund sites, and several others.

We managed our own Linux and Solaris servers and MySQL databases. In June 2007 I took six months vacation to travel, returning to work in January 2008.

Senior Software Engineer / Technical Architect, Go Internet.

2000 - 2003

Introduced the use of a bug tracking tool, a wiki, code reviews for all production code, and selected XP practices (pair programming, unit tests and continuous integration). Gave lunchtime lectures to colleagues on J2EE, software engineering best practices, estimation and eXtreme Programming.

Designed and built Java based web applications for clients. Led a team designing and building Go Internet's core product. Evangelized and assisted in moving all company servers from Solaris to Linux. Introduced Tomcat / Struts / Ant, and JUnit. Backup system administrator for our network of Linux machines in three countries.

Analyst, NatWest Global Financial Markets.

1999 - 2000

Maintained and enhanced NatWest's derivatives management system in C/C++. Also wrote Perl tools (including a Perl/CGI & Javascript Intranet site) and Sybase stored procedures.

Database Administrator / Developer, Information Management Associates.

1998 - 1999

Designed Oracle 7 databases and developed automated recoverable data feeds in C / Pro*C between legacy mainframe databases and Oracle on Unix (HP-UX).

Systems Analyst, Cedel Bank, Luxembourg.

1997

On an industrial placement from college, designed, developed and tested a real-time link between two Oracle databases over UDP providing guaranteed delivery and sequencing (C++, C, PL/SQL).

I.T. Division of Valentine Paints (owned by I.C.I.). Paris, France.

1992

PRESENTATIONS**Polyglot Conf Vancouver 2012:** Why you should learn Go**BarCamp Vancouver 2010:** Psychology for your webapp**OpenWeb Vancouver 2009:** How and why to extend Firefox in Javascript**OLDER****PUBLICATIONS****Don't sweat unit tests**, JavaWorld

November 2005

Practical XML Schema in Java, JavaWorld

August 2005

High-Availability Tomcat, JavaWorld

December 2004