Education

2009–2013 University of Cambridge
MEng Engineering (Distinction)
BA Manufacturing Engineering (First)

2002–2008 East Barnet School
A Levels (5 A's Maths, Physics, Chemistry, Further Maths AS, French AS)
GCSEs (9A*'s 2A's)

Skills

Excellent
JavaScript (ES6, Node.js, Babel etc), C++11, React/Redux, Java 8+, C#, HTML, CSS (including SASS)

Proficient
Rust, Kubernetes, KnockoutJS, AngularJS, PHP, ASP.NET MVC, Ruby, Typescript, SQL, AWS, GCP, Jenkins, Selenium, Dropwizard, Docker,

Experience with
Swift, Python, Yolo, Caffe, Open CV, AngularIO, Nancy, PhoneGap/Cordova/Ionic

Outside Work

Cycling, Martial Arts, Bouldering, Underwater Rugby, Travelling, Wild Camping, Triathlon, Board Games, Current Affairs, Hacking around with random electronics

John Ginger

Freelance work while travelling the World (Feb 2018 - Aug 2018)
Taking a sabbatical exploring the world, while doing freelance work. Projects include:
- Writing an adaptor to convert the teamup data api into the openactive data format
- Creating a CI/CD pipeline, which automatically tested and deployed branches for testing using Docker, ECS and bitbucket pipelines
- Creating a React web app to count the number of fish caught on a boat from video footage to validate logbook counts

Vivacity Labs (Aug 2016 - Feb 2018) in London, UK
Front/Backend Tech Lead
Took on a variety of tasks in a fast growing startup that does machine learning and video analytics to provide smart, hyper-local data for smart cities & intelligent transport systems. These included:

Video analysis and upload portal
- Using C++ based machine learning to gather insights from uploaded video
- Creation of a robust web portal for a FTSE listed company to ingest, store and analyse 100,000's of hours of uploaded video
- Scaling GPU based processing with a Kubernetes cluster running on both physical and cloud machines
- Interactive visualization of the the processed data, including video overlay and summary reports
- Benchmarking tools for fast automatic validation of machine learning performance
- Created a tool to enable the annotation by overseas contractors of 100,000's of images, which was used to for training ML models
- Frequent meetings with clients to find and develop user requirements, including at board level
- **Main technologies used:** *NodeJS, React, MySQL, C++, GCP, Web Workers, Kubernetes*

Team Management
- Team Lead responsible for full stack development, including running as scrum master for the whole team on a rotating basis
- Once the company grew, lead a team that developed tools to analyse and get insights from the data the company generated
- Giving fortnightly presentations to the rest of the company and instituting regular team update meetings with internal and external stakeholders
- Put in place coding standards, guidelines and review processes to help maintain code quality
- Mentoring and training junior developers, including extensive code review
- Developed a coding test for assessing potential employees
- Responsible for creating automated testing, both unit (mocha and jest) and integration (chromeless)
- Setup the continuous integration and testing of projects using Jenkins and automated deployment onto AWS and GCP, as well as local servers
- **Main technologies used:** *Jenkins, mocha, chromeless, Github PR's*

Cloud based ingestion system for sensor data
- Developing a robust system to ingest data from a citywide network of sensors, run various processing and filtering steps before serving as an api
- Used on multiple projects, including sensors placed on trains and bus, as well as several static sensors in Milton Keynes
- Created various tools to visualize the ingested data, including joining paths of detected pedestrians and showing density of crowded scenes
- SQS message ingestion, which was processed with NodeJS, served with a redis cache then archived to S3
- Later transitioned to GCP pub/sub, with google cloud storage
- **Main technologies used:** *NodeJS, redis*

Softwire Technology Ltd (Jan 2015 - Aug 2016)
BBC Monitoring – Portal Rebuild
Team replacing an underused legacy application with a powerful and engaging new web portal which significantly grew the clients reach and subscriber-base

- Delivered reliable and performant responsive website for desktop, tablet and mobile devices
- Fast iteration through features, allowing the design to be iteratively refined
- Based on an Elasticsearch database deployed on the AWS cloud providing rich search capabilities and notifications
- Met strict accessibility standards, including testing with screen readers
- Paired with other developers and reviewed code
- **Technologies used:** *Java 8 + Dropwizard, Elasticsearch, MySQL, JavaScript + Angular, AWS*

BBC News - Newsbeat Responsive Website
Creating a high traffic (target of 2 million daily users) responsive "mobile first" website and assisted in the creation of two native mobile applications (iOS and Android).

- Successful delivery of slick, impressive website using modern web technologies
- Helped develop a Ruby based microservice pipeline architecture on AWS
- Javascript profiling and optimization to create high performance effects on lower powered mobile devices
- Regular pairing with designers to allow rapid prototyping and iteration of designs
- **Technologies used:** *Javascript, HTML, CSS, Ruby, Selenium, AWS EC2, S3 + Dynamo DB, SQS, SNS*

2013-2014 Robot Industries Ltd
Director
As part of the EF2 (Entrepreneur First) Cohort founded a startup which created educational toy robots to teach children programming. We had a successful kickstarter raising over £20,000 pounds and shipping hundreds of robots.

- Developed a web based programing environment which progressed from Scratch-like drag and drop programing into programming directly in Javascript
- Wrote a cloud compilation service which allowed Javascript programs to be converted into native C++ to be run on physical robots
- Developed a new robot design from scratch, including programming firmware, designing a circuit board that interfaced with USB
- Set up a manufacturing run including leasing with suppliers and dealing with production problems
- Managed shipping and customer relationships
- **Technologies used:** *Javascript, HTML, CSS, C++, AWS, mbed*

2010-2013 Cambridge University Autonomous Flight
President (Student Society – unpaid)
At University founded the Cambridge University Autonomous Flight Society. In the first year of running the competition the team achieved 3rd place in the indoor autonomy challenge of the 2010 International Micro Air Vehicle Challenge

- Managed budgets, recruited new members, organized meetings and set timetables for various projects
- Had a technical overview of all the elements to the design to ensure successful integration
- Raised over £5000 to fund the development of hardware and travel to conferences
- Used OpenCV to analyze video to control the movement of the drones
- **Technologies used:** *C++, OpenCV, Python, Ardunio, Solidworks*

2008-2009 Delphi Diesel Systems
Gap Year Development Engineer
Created a program which saved the company £18,000 in employee time by automating the analysis of worn injectors – reducing a process which used to take 2 hours to less than 4 minutes, winning the South East Region Contribution to Business Award from the Engineering Development Trust