Education

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

Skills

Excellent
Recently (last year) worked on a major commercial project using this language
Javascript, React, AWS, GCP, Python, HTML, CSS (including SASS), Kubernetes, Docker, Postgres, MySQL, GraphQL

Proficient
Have completed a substantial hobby or commercial project (>year ago)
Java, Ruby, C#, PHP, Jenkins, Rust, Yolo, C++11

Familiar
Have experience programming in this language
AngularJS, Typescript, Open CV, ASP.net, Swift, Caffe, AngularIO, Nancy, PhoneGap/Cordova/Ionic

Links

https://johnginger.co.uk
https://github.com/JohnGinger
https://www.linkedin.com/in/jginger/

Outside Work

Cycling, Martial Arts, Bouldering, Travelling, Wild Camping, Triathlon, Board Games, Created an contactless dynamo bike light

John Ginger

Wayve Tech (April 2019 - Present) in Cambridge/London, UK
Squad Lead - Fleet learning
Wayve make self driving cars. Fleet learning is the part of Wayve which is responsible for deploying our vehicles in the most efficient and targeted manner. We analyse the world, our current datasets, our current machine learning performance and then calculate the most effective way to deploy our fleet.

The scale of data ingested is PB's per year. We need to make robust systems to ingest, view and filter it. As squad lead my responsibilities are making sure that the team works effectively to meet its objectives. This includes supervising and reviewing the technical design as well as helping team members to be individually effective.

Consultancy Work while Travelling (Feb 2018 - April 2019)
I took a sabbatical travelling the world, visiting places from New Zealand to Peru. While travelling and after returning to London I completed a range of freelance consultancy work. Projects included:

- Setup automatic CI/CD, which automatically tested and deployed branches for testing using Docker, ECS and bitbucket pipelines
- Creating a React SPA with a C++ and Postgres backend to count the number of fish caught on a boat from uploaded video footage
- Machine translation of legacy scanned PDFs in to a machine readable format, and a React SPA to display the results
- Using GraphQL to combine different microservices, and writing a translation layer for a legacy API
- Main technologies used: *NodeJS, React, Python, Postgres, GCP, GraphQL, Kubernetes*

Vivacity Labs (Aug 2016 - Feb 2018) in London, UK
Tech Lead (Fullstack)
First experienced engineer at a fast growing startup that does machine learning and video analytics to provide smart, hyper-local data for smart cities & intelligent transport systems. Tasks 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, mechanical design, integration
- Manufactured over 200 robots, including dealing with manufacturing, supply chain and customer problems.
- 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
- 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