Charlotte Godley BSc(Hons) MBCS MIET

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Tech summary

Python: 5 years experience. Have worked using pure python, Django, SQLAlchemy, and Flask, generally with a React frontend. TDD using pytest and the standard python testing library.
Golang: 3 years experience. Experience working with gRPC, gorm, protobuf.
Databases: Confident in SQL. Used both google managed postgres and self hosted, SQLite.
Infrastructure: 4 years experience. Have managed and installed Kubernetes clusters on prem and in Google cloud. Set up deployment pipelines using GitLabCI, Python and Bash scripts. Managed and configured GitlabCI runners, both using VMs and using docker containers in Kubernetes. Used and debugged microservices using kubectl.
Frontend: 3 years experience. Worked with React, React Native.

Experience

Chief engineer and director
Rose and Deer Software Ltd, July 2021 to present

Contract software engineer for multiple clients. Current project: working on a react typescript next-js frontend connecting to a python backend, to implement timed bookings for an events company. Previous project project: sole developer on react-native app for onsite operations in events company, creating simple flows for staff to be able to support customers.

Technical Lead/Engineering Manager
Echo, December 2019 to present

Lead team of 4 engineers. Lead backend architecture of split packs, a project which enabled Echo to reduce wastage of unused tablets from packs which are too big to dispense. Trained members of the team on Kubernetes in order to support their understanding of how we use our infrastructure and encouraged senior technical staff to write their own materials on other topics and run their own sessions. Added and improved our run books which all engineers use when they do their day on call fixing stuck patient orders. Lead, developed and deployed the work to connect tape dispensers to the dispatch tool, which saves on packaging resources and saves 3-5 seconds per dispatch.

   Mentored and eventually promoted junior members of the team to senior, where they are now leading projects for themselves and advising on technical direction for the team. Hired and onboarded new team members including designing the onboarding process for our transition to remote during the pandemic.

   Line managed and defined the role for our quality analyst who ensures more complex bugs are followed through and handled. Proposed engineering strategy and ran initiatives which helped keep the strategy going (targeting bugs and technical debt problems) including running "snagging day" which allowed us to tackle minor or snagging problems in the current patient and warehouse flow.

Senior Software Engineer
Dotscience/Dotmesh, June 2018 to December 2019

Instrumental in the design and development of Dotscience — a SaaS product to aid the day to day work of Data Scientists. Integrated our complex product with NodeRed, a drag and drop UI provider which allows users to interact with DotScience as if it were an executable flow chart — this allowed non-technical users to get the result of data scientists work on Dotscience without the need for additional training whilst also allowing automatic integrations with other tools suck as Slack. Alongside the behaviour driven development of the system I wrote the user facing documentation and provided training to clients. This increased the size of the market Dotscience could appeal to and directly contributed to sales.

   Designed and developed the e2e test suite for the backend of DotScience. Taught colleagues how to integrate existing frontend tests into environment level e2e tests. The development of the test suite reduced the amount of time developers had to spend manually testing the system before accepting a pull request

which increased productivity. The suite also reduced the likelihood of a bug being introduced into production.

Wrote the Kubernetes Manifests, which control deployment, for Dotscience and Dotmesh which allowed us to reduce the number of virtual machines required to run the SaaS product whilst also opening us up to a ecosystem of tools which made the maintenance of the SaaS product easier.

Designed and developed, in go, the committer which detects run metadata whilst another developer built the CLI tool to run a script using Dotscience. These two services had to work with one another so we adhered to contract based development. Development of the committer meant that end users would no longer have to alter the structure of their filesystem of data to match the technical needs of Dotscience which reduced the amount of friction to start using the product.

Platform Engineer
Ocado Technology, February 2017 to June 2018

Responsible for the Ocado Technology developer platform, a Kubernetes cluster on top of OpenStack infrastructure in each of their generation 2.0 automated warehouses. Development work involved producing and improving continuous integration and delivery scripts. Implemented and evangelised a test driven approach to deployment process scripts to speed up feedback loops, therefore improving developer productivity. Wrote clear and concise documentation. "Ate own dog food" by using the CI/CD pipelines during development of Django/Python applications.

Operational duties included supporting developers in debugging issues with their applications on the Kubernetes clusters. Promoted a culture of learning within my team through written case studies which clearly showed the thinking behind the resolution, and through pairing during incidents. Started additional training initiatives within my department through info-dump sessions where we discussed a specific technical topic in a question and answer format.

Key member of the Monitoring and Alerting working group on behalf of my team for the infrastructure department, which aimed to have a more coordinated approach to monitoring across several teams. Lead meetings, offered my own technical experience and advice on effective use of Prometheus, Grafana and Kubernetes. Lead internal monitoring hackathons.

Extensive time spent running technical interviews, constantly working to make the process more effective for the organisation and less time consuming and stressful for the candidate. Mentored several other members of the team through pairing particularly around operations work. Publicly presented my work at Kubernetes London, Cloud Native London, London Python, Cambridge Python User Group and DevOps Days Edinburgh, in addition to internal training sessions.

Software Engineer
Cambridge Consultants, September 2015 to February 2017

Cambridge Consultants are a product development and technological consultancy. Worked on multidisciplinary teams with projects ranging from household devices through to defence systems primarily in embedded and web systems. One such project was a HTML5 web app for a touch interface to showcase Cambridge Consultants' capabilities to prospective clients. Angular.js was the client-side MVC framework and D3.js was used to display graphs and charts with a Node.js backend. The integration of D3 and Angular was a particularly interesting piece of work, which required working with legacy D3 code written for an earlier iteration of the product in order to get it to play nice with Angular. As well as being shown to clients the application is displayed in the main office, so all visitors see the project.

Embedded work ranged from developing robust and resilient drivers through to programming state machines and applications for real time operating systems. Took on additional responsibilities around project management including soliciting requirements from clients, delegation of engineering tasks and facilitating collaboration with other teams.

Freelance technical writer
July 2014 to July 2015

Contracted to author blog posts, write tutorials and present in informational videos by Premier Farnell, the leading electronics distributor in the UK during the final year of my degree. The content was primarily

aimed at electronics hobbyists and the video series, Circuits with Charlotte, received a total of over 85,000 views on Premier Farnell's YouTube Channel.

This work developed my communication skills, enabling me to discuss highly technical subjects with people of varying skill levels; from beginners through to advanced users. Each project, which consisted of a tutorial and a video, took users from the basics of electronics through to having a working system.

Projects included creating a **NFC enabled microcomputer** with a **Windows Azure ASP.NET backend** to allow people to check in using oystercards at events, and creating a bracelet of LEDs which could be given a custom colour and pattern using an android phone app.

EAT Intern
Airbus Operations, August 2013 - July 2014

Completed an industrial placement as part of my university sandwich course. Placement was with Airbus, the largest plane manufacturer in Europe. Maintained a python toolkit called EAT (Engineering Application Toolkit) which interfaced with the CAD modelling engine CATIA. Toolkit reduced Aerospace Engineers reliance on the CATIA UI without needing to use the complex C++ API directly, enabling non-software engineers to write their own tools. Built and improved applications using the toolkit, varying from stress calculations to fuel systems modelling. Trained replacement interns and helped support work experience students.

Education

Degree   BSc(Hons) in Computer Science with Industrial Experience at the University of Hull
Grade   First Class

Awards

- Winner of the **G.B Cooke Prize** for **Best Final Year Project** at **The University of Hull**
  Recipient of the award for best final year project in a year group of 150 students, due to an average percent score of 93 for the dissertation portion of my degree.

- Winner of the **Bristol Heat of the Institute of Engineering and Technology Present Around the World Competition**
  A competition for 18-25 year olds to present on a technical topic for 10 minutes. Presented a talk about improving Computing education with a particular slant towards using creative technologies to improve inclusion and interest.

- Winner of the **British Computer Society's Lovelace Colloquium**, Best Second Year **Poster Award**

- Winner of a travel scholarship for the **Grace Hopper Celebration of Women in Computing 2014**
  One of 425 recipients of a total applicant pool of 1,400 to receive full travel, accommodation and entry financial aid to attend the conference in **Phoenix, Arizona**, through personal merit and support of STEM education improvement in the UK.

- Winner of one of five **Milennials Scholarships** to attend the **Future of Wireless International Conference 2014**, in Cambridge, UK

Hobbies and Interests

- **Musician with grade 8 in Clarinet, grade 5 in Piano and grade 3 in Saxophone**. Music has greatly influenced my ability to work with others, memory skills and logical thinking. I regularly attend bands and orchestras to keep these skills sharpened and as a form of relaxation. This also influenced my *Final Year Project* during my BSc, which was a **sheet music organisation system**, in order to make it easier for classical musicians to browse their own libraries and collate it with online resources.

- **STEM Ambassador**. I volunteer as a STEM Ambassador in order to improve computer science education. Previously I have ran workshops using wearables in order to teach programming concepts in a more creative and inclusive way, supported teachers with resources and given talks on computing education at meetups. More recently I have been actively involved in mentoring young people to take part in PiWars, a Raspberry Pi robot building competition hosted in Cambridge, UK every year.

References available upon request