

# Emily Shepherd

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**Hi, I'm Emily.** I am a Master of Engineering in Computer Science from the University of Southampton, with first class honours. I have coding experience working both in multi-developer teams and as a freelance solo contractor. I am an effective communicator to both technical and non-technical audiences and comfortable working to tight deadlines.

PHP · JavaScript · (X)HTML(5) · CSS · Java · SQL · C(++) · Python · Perl · Bash · LaTeX  
Redis · Docker · Apache · Postfix · Dovecot · Nginx · AWS · Linode · \*nix · Git  
Symfony · Doctrine · AngularJS · jQuery

## Employment History

### **Partnermarketing.com (Twogether Creative Ltd), Developer (Lead), January 2017 – Present**

I joined as a Junior Developer for their flagship product family: partnermarketing.com. The platform's backend is predominantly PHP, using Symfony 2, and the frontend is predominantly AngularJS.

After three months, I became the most senior member of team and in March I won "Hero of the Month", selected by entire company vote. When I joined, the team was at the end of a six month project to refactor the entire code base, and in April I single handedly planned, managed, and oversaw the go live date – migrating the entire database from MongoDB to MySQL and ensuring none of the data in our thousands of records were corrupted.

Since then, my role grew to include: planing technical tickets with the Product Owner, managing the rest of the developers and overseeing their progress, architecting the platform as a whole, doing DevOps for the team, and training and mentoring new starters.

I regularly go on client calls, liasing with technical and management teams within some of our big clients, such as Lenovo, Zebra, and Nokia, to discuss and debug Single Sign On matters, and new client requirements. I have also provided clients access to testing systems for User Acceptance Testing, and interpreted their feedback, translating this into tickets for the team to action, and written statements and responses to client queries during the proposal phase.

My next project was to split up the monolith codebase into smaller micro services, and migrate the platform away from its traditional server stack, to a containerised solution, run on Docker Swarm. I was solely responsible for the planning and implementation of this, and I deployed it at the start of 2018 with no downtime. This has halved our running costs, over doubled the capacity, and made it much easier to deploy / test code changes.

My role has also covered some of the infrastructure used by the agency side of the business, and in April 2018, I performed an audit of all systems including: every instance, volume, security group, RDS instance, and DNS record. This resulted in an immediate saving of around \$1500 per month, and I gave recommendations for longer term solutions for further cost savings.

### **Spa Staff.com, Web Developer and Mistress, 2011 – 2015**

Spa Staff is a spa recruitment service, with over 22,000 candidates uploading CVs to the site, and over 3,000 employers searching these and posting job advertisements. I was solely responsible for the management of the site and all feature development.

In 2014, Spa Staff contracted a second freelance developer for minor bug fixes and improvements while I worked on a major site redesign, implementing a responsive design to better tailor the site for tablets and phones. I was responsible for training this developer in the technologies the site uses and assigning / overseeing jobs.

### **Music Jobs, Web Developer, August 2010, July 2011 (Summers)**

In the summer of 2010, I joined their London office, charged to reskin their web site to give a better experience when viewed on a mobile device.

In 2011, I was invited to their LA office; I refactored their procedural payment systems into an MVC architecture and integrated them with multiple payment systems, including SagePay, Braspag and PayPal.

## Projects

### **Open Source Work**

As part of my work at Partnermarketing.com, I contributed to a number of open source projects, such as lightSAML, a library for handling SAML Single Sign On, and KeenIO, a library for pulling statistics out of KeenIO. I also created and worked on entirely new open source projects such as an SDK for shortening URLs via Rebrandly's service, and a queuing library for message passing between micro services using Redis.

### **Legit: Distributed Code Review Tool, Individual Project, 2014 – 2015**

For my third year at Southampton, I worked on a year long individual project. I conceptualised and developed Legit, a code collaboration tool based on Git. Its purpose is similar to that of Gerrit, with the difference that review / vote meta-data is tracked within the Git repository. This creates a distributed audit trail, which is visible to anyone with access to the original repository, removing the point of centralisation typically required in large scale projects. I was awarded a mark of 81% for this project, a high first class grade.

### **ARM, Group Project, 2015 – 2016**

As part of my final year, I worked in a team of five undergraduates on a project given to us by ARM: to design and develop a complex proof-of-concept application for their new subthreshold M0+ processor, which is currently in development. We chose to build a device and develop an embedded Machine Learning algorithm, to recognise certain forms of exercise.

I was responsible for modelling the algorithm in Java, and then programming it in C, optimising its code and any required libraries to fit into the device's tiny 8kB of memory. I successfully implemented a working system in just 4kB for both program code and runtime data, running at 106kHz. ARM was very happy with the results, with the project earning a first and my individual contribution was graded as joint-highest, awarding me 76%, a good first class grade.

## Education

### **University of Southampton, 2011 – 2016**

I graduated with a first, on an integrated Masters of Engineering, reading Computer Science. I earned two scholarships for being within the top 10% in my first and second years, as well as the Netcraft Prize, for being within the top 10 of my cohort in third year.

### **The Leys School, Cambridge, Secondary School and Sixth Form**

A Levels: Maths: A\*, Further Maths: A\*, Physics: A\*, Chemistry: A

GCSEs: A\*s in Maths, Biology, Physics, Chemistry, Divinity, Latin, English Literature  
As in French, German, English Language, History

FSMQ: A in Additional Maths

**More Information:** [emilyshepherd.me](http://emilyshepherd.me) · **Portfolio:** [github.com/EmilyShepherd](https://github.com/EmilyShepherd)