

# MAX MATON - SOFTWARE ENGINEER

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## PROFESSIONAL EXPERIENCE

### Contract Software Engineer, Cambridge Consultants — 01/2022 - 10/2023

- Worked with SmartSky Networks to provide LTE from Cell Towers around Continental USA to aircraft. The Service Management Portal and Element Management System provide management and overview of the network in real-time as well as capacity planning and provisioning of hardware.
- Management of network components from radio heads to airborne user equipment running a custom daemon communicating over GCP and subsequently migrated to AWS IoT platforms.
- Ingest, enrichment, (programatic) management, and presentation of large telemetry datasets from ground and airside devices to ElasticSearch for a concise view of flight connectivity.
- Built Apollo federated GraphQL services (python/go) to inventory network devices, exposing telemetry and service-specific network information stored in ElasticSearch to customers. Experience with both schema and code-first GraphQL frameworks.
- Unit, Integration, E2E Testing of services and their dependant frontend react apps.
- Deployment to Google Kubernetes Engine managed by Terraform using Gitlab CI/CD, helm, and helmfile. Cloud resources managed via GCP config-connector / Crossplane.
- CRUD management of devices in both AWS and GCP IoT Platforms, such as certificate management, configuration generation and push, reboot, diagnostics.

### Contract Senior Devops Engineer, British Telecom, London — 10/2018 - 10/2021

- Leading a (mostly remote) 6-8 person scrum team for the development and maintenance of services to plan, build, deploy, monitor, and orchestrate a large-scale media network Vena.
- Provided API endpoints to surface device, connection, circuit, building etc. Applications to provision services over computed paths through the network.
- Automated provisioning from factory, testing, and applying base configuration to Cisco and Juniper routers using device-specific finite state machines to navigate CLI prompts in a directed acyclic graph. (Cisco ZTP, Netconf-rpc, paramiko-expect, netmiko).
- Built an admin interface for engineers to plan and provision network devices a large matrix of build configurations as we on-boarded more customers with differing requirements, commissioning and test channels/circuits between nodes.
- Assumed product owner responsibilities to interpret and implement complex business logic, testing multiple software components on live devices in a repeatable and efficient manner. This involved working closely with other team leads and SMEs to align priorities.
- Managed continuous deployments of the Inventory to on-prem Kubernetes clusters across multiple environments. Developed unit, integration, and e2e tests in conjunction with a dedicated 'integration' squad, tested using our own physical kit on a nightly basis.
- Python 3.7 -> 3.9, pytest, Django, DRF, PostgreSQL, Redis, Celery, Docker, Kubernetes, Kafka, ElasticSearch, Juniper JunOS, Cisco iOS XE/XR, Netconf, Gitlab CI/CD, Sentry.

## TECHNOLOGIES

Python  
Flask / Uvicorn  
GraphQL  
Apollo  
Django + DRF  
Celery  
PostgreSQL  
Elasticsearch  
PubSub / SNS / SQS  
AWS/GCP IoT  
Docker  
Kubernetes  
Helm  
Helmfile  
Terraform  
GCP  
AWS  
Linux  
PHP  
Golang  
Bash  
Javascript / TS  
Git / SCM  
Gitlab / CI / CD  
Ansible  
Kafka  
ArangoDB  
Redis  
Nginx  
Sentry  
Prometheus  
Grafana  
Cisco IOS XE/XR  
Juniper JunOS

### **Contract Software Engineer, Immediate Media, London — 2016-2018**

- Member of a senior team set up to develop infrastructure, software, tooling, and standards to ease. behind a high-traffic, multi-tenancy Wordpress deployment. Using Terraform and Jenkins I deployed and maintained ElasticSearch, RDS, Lambda functions, API gateways, VPCs, auto-scaled EC2 Instances behind load balancers.
- Deployed monitoring solutions with Grafana, wrote tooling, championed a high standard of product documentation for developers and users. Aimed to spread knowledge throughout my team.
- Main technologies: Terraform, Puppet, Packer, Vagrant, Atlas, Jenkins, PHP 7, PHPunit, Elasticsearch, Wordpress, Grafana.

### **Freelance Web Developer, Birmingham — 2012-2016**

- Created Wordpress themes from skeleton templates for multiple clients such as artists, teachers, and an e-commerce site for The Treat Kitchen, Nottingham.
- Built scalable and secure hosting using AWS, OVH Cloud, Proxmox OpenVZ.

### **Consultant, Open Reply, London — 2014-2015**

- Specifying in responsive, content rich, and interactive web applications including backend functionality.

## EDUCATION

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### **BSc Information Systems / Computer Networking, Birmingham City University, 2012-2016**

- Achieved a high 2:1 - 69%.
- Dissertation: IntelliGrow - A hydroponic deep water culture growing cabinet with built in sensors, camera, LED COB, ventilation, peristaltic pumps, and aerator to automatically change growing conditions based on human-input parameters as well as external environmental factors. Predominantly built with: Python, AngularJS, Arduino, Raspberry PI.
- 'Inspirational Graduate of the Year 2016' awarded by Vice Chancellor for my dissertation.
- Professors Award (Birmingham City University) - Sponsored by Gartner.

## SOFT SKILLS / INTERESTS

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- Leading an agile team, assisting product owner in gathering requirements and roadmap creation.
- Creating clear and concise documentation, knowing where to document features (code, readme, wiki, jira) and incorporating this in the development process.
- Delivering engaging and informative presentations to stakeholders and colleagues to spread knowledge and promote our tooling to other teams within the business.
- Automating hydro/aeroponics to explore solutions to food scarcity, cycling, through-hiking