

# Alexandros Solanos

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## Experience

Sep 2020 – **Senior Devops Engineer**, *Omilia*, Patras, Greece (Remote).

- Present
- Multi-cloud and multi-account network redesign and implementation using Transit Gateways and transitive routing, automated fully through IaC using best practices that vastly simplified the life of every employee, saving precious engineering time.
  - Reimplementation of existing Terraform modules for AWS and creation of new ones, making setup and configuration of new environments a breeze, giving to the company the ability to make Agile decisions based on the needed infrastructure.
  - Full implementation of PCI-DSS requirements at infrastructure level (encryption at rest / in transit, logging, alarms, policies etc) using IaC using all the required AWS services, ensuring successful audit results.
  - Completely dynamic CI implementation for fast and iterative Terraform module development, making writing new modules and testing new technologies a fast and worry-free experience.
  - Implement CI/CD processes using Gitlab CE and EE, including static code analysis, testing, image building and deployment using Ansible, empowering the developers to take full ownership of their projects.
  - Automate the deployment and configuration / user management of the company's Bastion using idempotent Ansible, a key component to the security of our production systems.
  - Create, administer and maintain various CentOS environments in AWS and Azure using Terraform, Jenkins and Docker Swarm.
  - Implement and take ownership of serverless functions in AWS and Azure related to cost savings and production workloads in Python and Node.js.
  - Build and maintain an HIDS using Wazuh, automating the Wazuh agent installation and configuration, including POC on Kubernetes deployment.

Sep 2016 – **Software and Devops Engineer**, *TourPanda*, Patras, Greece (Remote).

- Sep 2020
- I worked as Lead of the developer team, managing people and developing software using test-driven development (TDD).
  - I designed and built a complex, horizontally scalable RESTful API using Node.js.
  - I created the main custom application-level algorithms for the resource availability, agnostic of resource type and resource characteristics.
  - I built a RESTful API using Nest.js for analytics purposes.
  - I developed the booking assistant, the application which end-users book from, and a large part of the dashboard, using React.js.
  - I transitioned the deployment to Kubernetes, with a staging and a production environment, IaC in GCP and a complex CI/CD pipeline within 2 months, cutting operational costs by over 40 percent and facilitating a faster, fully-automatic and less error prone release cycle, freeing valuable developer time.
  - I implemented the frontend and the backend of multiple live-update systems based on WebSockets.
  - I was the Scrum Master in our Agile process, obtaining a deep understanding on the Agile culture and why there are certain practices around it.
  - I wrote unit, integration and e2e tests (using cypress).
  - I worked with Node.js, Redis, MongoDB and PostgreSQL in the backend.
  - I worked with React.js, Next.js and jQuery in the frontend.

Sep 2014 – **Process streamlining / IT support**, *Blue Star Ferries Agency*, Patras, Greece.

- Sep 2016
- I modernized the processes of the company: from doing data entry and manual comparison using different and inconsistent excel files, the users could now do data entry in a friendly and dynamic web interface which I built. The app was fed all the excel files and could do powerful comparisons of the aggregations of the data between different years, and of course allowed entry of new data. The application freed several man-hours per day and as of September 2021 the application is still being used daily. The frontend was built in jQuery and the backend used CakePHP and MySQL.
  - I did generic IT support on Windows-based users.

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## Education

Sep 2012 | **Master's in Electrical and Computer Engineering**, *University of Patras*,  
present GPA: 7.27, Thesis: Design and implementation of a prototype IoT system based on containers and the Lightweight M2M protocol, *Patras, Greece*.

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## Skills

Cloud experience AWS, Azure, GCP, Digital Ocean

Programming Languages Typescript, Python 2/3, Bash, PHP, C / C++, Java, Golang

Libs / Frameworks Express.js, Next.js, React.js, Nest.js, CakePHP, Qt (C++ and Python), Gtk 2.0, Various ORMs

Devops tools Kubernetes, Helm, Helmfile, Ansible, Terraform

People Lead of developer team, Scrum Master, Interviewing for technical positions, Public speaking, Knowledge sharing

Languages Greek (native), English (C2)  
Editors VSCode, Vim, QtCreator, Eclipse, Sublime Text

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## Projects

### **Wallch**, *C++ / Qt*.

A first C++ GUI experiment that made its way into the official Ubuntu repositories (2010); a wallpaper changer. A big learning project for a lot of things around building software. Built along with a classmate.

<https://launchpad.net/wallpaper-changer>

### **MalvaGallery**, *PHP / CakePHP, MySQL*.

A simple website built with CakePHP for my artist uncle. A learning project for web development which also features users and paintings management.

<https://malvagallery.com/>

### **University Department E-class**, *PHP / CakePHP, MySQL*.

An open e-class clone (<https://www.openeclass.org/en/>); a university project. Co-created along with another university student.

<https://github.com/themetalfleece/university-department-eclass-project>

### **NotiSIM**, *Java, Android*.

NotiSIM will send an SMS message to a number of your preference when it detects that your SIM card has changed. That way you can easily get the phone number of the newly inserted SIM card, in case your phone is stolen. The application supports white-listing any number of SIM cards, so 2 or more people can use the same phone with different SIM cards. Note that the application runs only on boot for detecting SIM changes and thus it does not run constantly, draining your battery.

### **MacroPolo**, *Python 2 / Qt*.

A python module that can be used in order to automate high-level processes (macros)

<https://github.com/hytromo/MacroPolo>

### **Anem**, *C++ / Qt*.

A graph generator that combined the powers of C++, ImageMagick and rrdtool to generate graphs regarding the power output, wind direction and wind speed of wind turbines. This side-project is dating back to 2013 and it wasn't intended for production use but it ended up being used for years by Petrogaz (<https://www.petrogaz.gr/en/>). Sadly the project got discontinued.

<https://github.com/hytromo/anem>

### **python-digitalocean-ssh**, *Python 3*.

A CLI-only python project aimed to make DO VMs easily accessible via ssh at any time.

<https://github.com/hytromo/python-digitalocean-ssh>

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## Awards

**Bosch XDK Ideation Jam Winner**, *Aug 2016*.

Our team's project was deemed to be the best on using Bosch's XDK in an internet of things application: <https://bit.ly/2YZZ3xr>  
Bosch

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## Volunteering

May 2012 – **Official Ubuntu Member**, *Ubuntu*, Online.

- Present
- Helping users at the Ubuntu Forums
  - Helping users at Ask Ubuntu
  - Reporting posts at the Ubuntu Forums for their better functionality
  - Bug Reporting at Launchpad and Gnome Bugzilla - testing beta applications
  - Providing Assistance on IRC Chatrooms
  - Proposing Ideas at Ubuntu Brainstorm
  - Developing scripts and helpful programs for the Ubuntu Community
  - Contributing at community wiki (<https://bit.ly/3f0zGRI>)
  - Various open source contributions, like in terser (official webpack minifier) and CakePHP

Jun 2010 – **Assistant to the team leader**, *TsikiBoom Camping*, Chania, Greece.

- Jul 2010
- Team activities
  - Creative learning

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## Papers

**Cyber-Physical Microservices: An IoT-based Framework for Manufacturing Systems.**

Conference: 1st IEEE International Conference on Industrial Cyber-Physical Systems (ICPS 2018), Saint Petersburg, Russia, May 15-18, 2018.  
<https://bit.ly/2BXPLsz>