Omar Sobh

Full Stack Developer / DevOps Engineer

187 Acalanes Dr.
SunnyVale, Ca 94086
(217) 419-5371
om.sobh@gmail.com

EXPERIENCE

Carl R. Woese Institute for Genomic Biology - Champaign,IL *DevOps Engineer*

Jan 2013 - PRESENT

http://knoweng.org

- Architect modular cloud development environments for data science and machine learning by leveraging Mesos, Docker, and Cloud09, removing the lead time needed for researchers to start developing applications and testing scalability.

- Integrate the Hubzero scientific platform with the cloud development environments to streamline developer authentication, management, and community application publishing.

- Create a cloud deployment that leverages SDN (Software Defined Networking) to test, and deploy containers or software stacks onto local and third party cloud computing resources such as OpenStack, AWS, Digital Ocean, Google Cloud, Ubuntu MaaS.

- Developed a docker container benchmarking suite for testing out underlying hardware resources performance as well as executing a variety of test ML benchmarks to gauge performance of algorithms on cloud deploy.

- Collaborate with researchers, professors, and students to leverage Docker+GitHub+Jenkins CI/CD to tighten the feedback and development iterations and automate their testing and deployment of scientific applications.

SKILLS

Linux, BSD, OSX, Win

OpenStack, MaaS, AWS, Digital Ocean, Rackspace

Docker, Rkt, LXD, KVM,OpenVZ, Xen

JS, HTML5, CSS3, Node.js, Socket.IO, WebRTC, Express, Jade, HBS, EJS, WebWorkers, REST API's,

Python, Matlab, C

AWARDS

AT&T ShapeIT Hackathon 1st. Place - iHeartRadio

Worked with teammates and created an application that provides online searching and listening to web radio stations with the added feature of real-time call-ins to the DJ or station. The application was developed with node.js, express, jquery, and leverages webRTC and Socket.IO for real-time communication.

LANGUAGES

English, Arabic

Illinois Natural History Survey, Urbana, IL — *Technical Specialis*

Sep2011 - Dec 2013

https://invertnet.org

- Research, purchase, assemble, test, and install all the needed network, server, and storage hardware systems that will be used for housing the core web application, processing pipelines, and 0.5PB image collections from 13 participating institutions.
- Develop a shipping system that will move the 0.5PB of images from collaborating institutions over fedex and UPS rather than uploaded through the internet helping meet our 6 month completion deadline for an image transfer solution.
- Collaborate with developers to integrate our groups custom built robotic camera camera solution that would capture high resolution images and provide an interface on the backend for automating the ingest and cataloguing of collections. (https://i.ytimg.com/vi/OtJyi4Kf1UE/maxresdefault.jpg)
- Develop internal API for retrieving InvertNet images and collection meta-data for consumption and publishing on the iDigBio (https://www.idigbio.org/) portal.
- Present and demo progress at annual NSF iDigBio conference in Florida showcasing updates, future plans, and outreach.
- Publish paper on Invertnet: http://zookeys.pensoft.net/articles.php?id=2914

Cazoodle, Champaign,IL — *Senior Systems Admin*

MONTH 2009 - MONTH 2011

http://cazoodle.com

- Manage Cazoodle internal cluster systems and prevent widespread system failure from overcrowding by conducting a room analysis for cooling needs and current heat generation.
- Upgraded server room with additional power capacity, dropped ceilings, and cooling units to extend server lifetime.
- Research and re-deploy internal networking environment utilizing a hardware/infiniband stacked switch configuration and increasing network switching fabric capacity increasing performance in the overall backend Hadoop distributed system.
- Monitor the health and metrics of internal storage and computational infrastructure that is comprised of over 300 physical nodes spanning over 8 filled datacenter racks and 2 international locations.
- Upgraded all cluster nodes to kvm virtualized linux kernel for the deployment of 2 development environments needed for deep web search engine data retrieval, processing, and publishing.
- Collaborate with developers in Taiwan to create a arabic language processing system by training character recognition, polymorphism, and intonation models.

PROJECTS

CloudSounds — *Social Playlist Sharing*
https://github.com/osobh/g_26_week1_project

CloudSounds is a playlist creation, and sharing app that utilizes the SoundCloud API to listen to music tracks, create playlists, and share with community or grouping of friends. The application was developed with node.js, express, jquery, SoundCloud API, and Google Firebase.

CodeGuild —Code Learning and Reviewing Platform
https://github.com/l4nk332/q2-project

CodeGuild is a knowledge sharing application that connects students with mentors and provides a digital venue for collaborative and real-time code development and reviewing system. Our system was developed leveraging node.js, express, Hbs, knex.js(query builder), postgres(DB), websockets, webRTC, and Code mirror.

iHeartCaller —Online Radio Real-time communication
https://github.com/jameslim1021/HeartCaller

iHeartCaller was an application developed to solve an existing online communication problem and provide online internet radio stations with a means to communicate in real-time with end-users through texting or real-time video chat for stations requests and competitions. We developed the application using Node.js, express, hbs, Websockets, WebRTC and the iHeartRadio API. This application won 1st. place in the competition at the AT&T 2016 IOT Hackathon Challenge.

#TrapWorld— Crime Data Analysis and Visualization
https://github.com/osobh/trapworld

This is an application that pulls that latest crime data for San Francisco and create a grid and pathfinding graph data-structure overlay for google maps which provides point and click access to selecting the safest routes for travel based on the weighted edges of the graph.