ANHAD JAI SINGH

PERSONAL INFORMATION

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ABOUT ME

I'm a curious guy, I ask questions and I like to learn.
Interested in all things Networking, Linux, Containers, Distributed Systems and Open Source.

WORK EXPERIENCE

Dec'18— **Tech Lead, Kubernetes**

Tower Research

Leading a team of 3 engineers to improve and architect the next generation of Kubernetes infrastructure at Tower.

Oct'17–Dec'18 **Software Developer**

AICrowd, EPFL

AICrowd, formerly CrowdAI - a project of EPFL, is a platform hosting agent based AI/ML competitions to crowd source solutions to hard problems in various domains of health, public transport, city planning etc. I worked as a jack-of-all-trades engineer with responsibilities ranging from optimizing our Gitlab on AWS infrastructure for scale to managing and debugging our Kubernetes & AWS infrastructureto rewriting the Python backend used for multi-agent communication and evaluation of user contest submissions.

Aug'18–Sept'19 **Technical Instructor**

Freelance

Taught a class of 40 recently graduated Software Engineers two courses. The first, a crash course in Python, covering - OOP in Python, functional programming, object model, memory model, unit-testing, packaging and surrounding ecosystem tools. The second, covering fundamental concepts of Unix operating systems, Bash scripting, Linux Kernel internals and systems programming. Responsible for everything from course content and assignment creation to teaching and grading.

May'18–Jul'18 **Bottlenecks in Hypervisors**

Independent Research

Spent time studying linux kernel internals, specific to nested virtualization, analyzing and quantifying the performance impact on workloads that use nested virtualization that has become possible and increasingly prevalant in the cloud. Work culminatd in a research paper titled "Scalability In The Nested Clouds! A Myth Or Reality?"

May'18–Jul'18 **Tech Lead, Cloud Services**

Tower Research

Worked as part of a division building out and driving adoption of on-premise cloud infrastructure. Responsibilities included individual contributions, technical advisory for product teams regarding cloud migrations and container technology. Also responsible for structured training of new recruits and mentoring junior engineers within the team.

- Designed, wrote and deployed various networking components to expose Kubernetes services outside the cluster, bringing the on-prem clusters close to parity with cloud providers. Work included rolling out custom network

ingress, load-balancing and DNS solutions. This reduced time to provision a service from a few days to a few seconds, removed any single points of failure in the networking stack and added self-recovery capabilities. The project required understanding of container networking, iptables, DNS and working with golang. As part of these efforts, I also contributed to OSS projects such as pdns and external-dns

- Helped product teams on-board various applications such as simulations, back-testing, backend API servers etc. onto Kubernetes/Cloud Infrastructure, acting as the primary point of communication and escalation.

Aug'15–May'17 DevOps, Core Engineering

Tower Research

Worked as part of an innately cross-functional team with various responsibilities ranging from build & release engineering, writing developer productivity tools, to on-call support and server administration.

- Designed and rolled out revamped, containerized build infrastructure for CI/CD using Docker, Kubernetes and Jenkins over 8 months, migrating over 300 jobs used by over 100 developers in the process. Evaluation involved setting up A/B testing and metrics collection for the project, which showed a 35% improvement in speed and a drastic reduction in intermittent failures.
- Wrote various components in Python for an in-house git based meta-SCM system for cross-repo dependencies, including the API server, test harness, and update notification system.
- Helped migrate the development stack from Fedora20 to Fedora22, including recompiling over a hundred in-house and open-source packages and trouble-shooting linking, loading and runtime errors in applications.
- Responsible for the administration and support of our Gitolite, Gerrit, Jenkins, Jira and Apache servers as well as in-house developer productivity tooling.

Reference: Rahul Balani · Division Manager · Request Email

May'15–Jul'15 Release Engineering Intern

Mozilla

Worked with multiple teams within Mozilla to plan and execute migrations of existing services and CI builds to newer, more robust in-house cloud based platforms. Most work involved Ansible, Docker, AWS and an internal platform called Taskcluster.
Also helped make the team's work more approachable for newcomers and earned recognition for bringing in and mentoring new contributors.
Reference: Hal Wine · Sr. Release Engineer · Request Email

Feb'14–Aug'15 Junior System Administrator

IIIT Hyderabad

Worked as Junior System Administrator, managing and maintaining the Institute's desktops and servers used by over 2000 users.

May'14–Aug'14 Release Engineering Intern

Mozilla

Worked with Mozilla's globally distributed team of Release Engineers across timezones, to develop a new on-demand software update generation system for Firefox called Funsize to thereby reduce the time and effort needed to support custom upgrade pathways. Written in Python and hosted on AWS.
Reference: Hal Wine · Sr. Release Engineer · Request Email

Jun'13-Aug'13 Automation & Tools Intern, Mozilla — Remote

Google Summer of Code

Worked with Mozilla's Automation and Tools Team remotely to analyse and improve test coverage for 10+ python libraries (called Mozbase) by over 150%, while coordinating with each component owner to ensure correct and necessary coverage.
Reference: Clint Talbert · Director Automation & QA · request email

VOLUNTEER EXPERIENCE

May'13–May'15 **Head, Open Source Development Group**

Open Source Development Group, IIIT-H

Built awareness about F/OSS software, encouraged contributions to the community. Organized talks and hackathons to encourage community growth and learning. Greater awareness and encouragement helped increase the Google Summer of Code selections from 16 (GSoC '12) to 69 (GSoC '14). Regular writer for the Group's Technical Blog.

SKILL SET

Proficient	Python, Bash
Rudimentary	C, C++, Go, Javascript
Misc	Docker, Kubernetes, Qemu/KVM, Ansible, Jenkins, Git
Compute Clouds	Google Compute Engine, AWS, Digital Ocean
Operating Systems	RHEL Family, Ubuntu, CoreOS, MacOS

EDUCATION

Bachelor's in CS (Hons. CV & AI)

2011–15 · International Institute of Information and Technology, Hyderabad

ONLINE PRESENCE

"ffledgling"