ANHAD JAI SINGH

PERSONAL INFORMATION

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ABOUT ME

I'm a very curious person. I'm extremely interested in and currently looking to grow my understanding of Distributed Systems, High Performance Networking and Operating System Design and Mathematics

EDUCATION

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

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

ADVANCED ELECTIVES

Systems

ADVANCED COMPUTER NETWORKS, DATABASE SYSTEMS, DISTRIBUTED SYSTEMS, COMPILERS, PRINCIPLES OF PROGRAMMING LANGUAGES

Vision & AI

STATISTICAL METHODS IN AI, DIGITAL IMAGE PROCESSING, COMPUTER VISION

AWARDS AND ACHIEVEMENTS

Dean's Merit List

2012 · Awarded to top performing students in a semester

Letter of Recognition

2015 · Awarded for outstanding contributions to the student community as a student System Administrator.

WORK EXPERIENCE

Oct'18–Cont. Systems Software Developer

CrowdAI, EPFL

CrowdAI is a crowd-sourcing platform for open data science challenges developed at the Digital Epidemiology Lab in cole Polytechnique Fdrale de Lausanne (EPFL), that allows experts in AI to solve hard real-world problems. I'm currently working as part of the CrowdAI team to improve, scale, and stabalize the crowdai platform and infrastructure. Prominent work so far includes contributions to the "NIPS 2018: Adverserial Vision Challenge" and helping rearchitect the platform to handle upto 16x the original GPU and submission load.

May'17–Apr'18 Tech Lead, Cloud Services — Gurgaon

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.

Reference: Neil Tiwari · Global Division Manager · Request Email

Aug'15–May'17   DevOps, Core Engineering — Gurgaon

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

UNDERGRADUATE RESEARCH

May'13–May'15   Honors, Center for Visual IT (CVIT)

Prof. Anoop M. Namboodiri   Worked to devise classifiers for use in computationally restrictive environments such as smartphones. The idea was to make them faster and more compact than state-of-the-art classifiers, sacrificing accuracy where necessary.

- Proposed a new tree based classifier that was a hybrid of one-vs-one and one-vs-rest classifiers and evaluated and later attempted to optimize its performance along different axes such as speed, memory utilization and accuracy.
- In the process of evaluation we came up with a way to visualize the progress and final results of the classifier using d3.js and a small python backend server that would serve the most up-to-date progress status of the classification process.
- The full, detailed project report for this project is available at: https://web.iiit.ac.in/ anhadjai.singh/Notes/library
- The visualization for a (static) classifier is available at: https://web.iiit.ac.in/ anhadjai.singh/honors/vis/

INTERNSHIPS AND APPRENTICESHIPS

May'15–Jul'15   Release Engineering Intern — San Francisco

Mozilla   Worked with multiple teams within Mozilla to plan and execute migrations of legacy services and build configurations and release pipelines to a new platform based on AWS providing a more robust and reliable setup. Most work involved Ansible, Docker, AWS and Python. Second project involved working with and migrating workloads to an internal workload orchestration platform called Taskcluster, built using Docker and Golang.

Reference: Hal Wine · Sr. Release Engineer · Request Email

Feb'14–Aug'15   Junior System Administrator — Hyderabad

IIIT Hyderabad   Worked as Junior System Administrator, managing and maintaining the Institute's Servers used by over 2000 users.

May'14–Aug'14   Release Engineering Intern — San Francisco

Mozilla	Worked with Mozilla's globally distributed team of Release Engineers to develop a new on-demand partial software update generation system for Firefox called Funsize. 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 analyze and improve test coverage for an python library suite called Mozbase. Reference: Clint TALBERT · Director Automation & QA · REQUEST EMAIL

TEACHING EXPERIENCE

Sept '18   Comprehensive Introduction to Python

Freelance Instructor	Taught a class of 38 recently graduated Software Engineers the fundamentals of Python, including but not limited to - OOP in Python, functional programming, object model, memory model, unit-testing, packaging and surrounding ecosystem tools. Responsible for everything from course content and assignment creation to teaching and grading.

Aug'18   Linux Fundamentals & Bash Scripting

Freelance Instructor	Taught a class of 40 recently graduated Software Engineers fundamental concepts of Unix operating systems, Bash scripting, Kernel internals and systems programming. Responsible for everything from course content and assignment creation, teaching and grading.

Jul'17–Aug'17   Course Instructor, Developer Tools

Tower University	Instructor for an introductory course on version control, build systems, package managers, details of compilation and linking to campus graduate hires. Responsible for everything from course content and assignment creation, teaching and grading.

May'13–May'15   Teaching Assistant, IT WORKSHOP-I

IIIT-H	Taught the fundamentals of Linux, Shell Scripting and Javascript to a class of freshmen. Responsibilities included:

- Preparing content for and conducting labs for freshmen.
- Creation and evalution of course assignments.
- Mid-Term and Final exam evalution.

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.

Jun'14–Nov'14   Community Building, RELEASE ENGINEERING

Mozilla	Recognized for bringing in and mentoring new contributors. Helped make the team's work more approachable for new volunteers.

Dec'12-Dec'13   Volunteer Contributor, AUTOMATION & TOOLS

Mozilla	Helped fix numerous bugs across different test suites and testing frameworks.