Mridul Malpotra

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INTERESTS

Motivated towards exploring networks and systems, especially distributed, decentralized and anonymous.
Interested in engineering systems that optimize on reliability, scalability and performance.

EDUCATION

Indraprastha Institute of Information Technology (IIIT-Delhi)   Aug. 2012 – May 2016
Bachelor of Technology in Computer Science and Engineering   *New Delhi, Delhi*

Pace Junior Science College   Aug. 2010 – Mar. 2012
Junior College   *Mumbai, Maharashtra*

SKILLS

Languages: Python, Java, Bash, C/C++, SQL, Hive, HTML/CSS/Javascript

Systems: Linux, Git, Docker, Mesos, Tor, Zookeeper, Hadoop, Elasticsearch, Puppet, Kafka, Redis, Jenkins

IaaS experience: Microsoft Azure, Amazon Web Services, Alibaba Cloud

SaaS experience: Akamai, Edgecast, Catchpoint, Cedexis, Dyn, NS1, Nessus

Frameworks/Libraries: Django, Flask, Celery, Android SDK, Pandas

EXPERIENCE

Site Reliability Engineer | *LinkedIn*   Mar. 2019 – Present
Edge Infrastructure   *Bangalore, Karnataka*

- Lead the efforts to **onboard a new Content Delivery Network (CDN)** to LinkedIn's edge presence in China.
    * Evaluated multiple CDNs on various performance parameters. Designed as well as conducted simulated and production traffic experiments.
    * Ramped the CDN to real user traffic, set up metrics and monitoring, and optimized CDN-to-edge performance.
    * Won the *'Mountain Mover'* and *'Engineering Rigor'* awards within the global SRE Infra org. for exceptional effort and engineering respectively.
- Maintaining and actively developing on tools for purge capabilities and request insights for managed services. Part of effort for integrating and migrating these production services to Azure CDN.
- Actively benchmarking and evaluating strategies to streamline our global edge footprint.

Site Reliability Engineer | *LinkedIn*   Feb. 2018 – Feb. 2019
Data Flow and Warehousing   *Bangalore, Karnataka*

- Created a framework that helps manage labelling of failures for Hadoop data computation flows to reduce operational overhead of on-call.
- Part of effort to improve metrics flow platform stability – developed flow execution tracker and metadata store for SLA measurements and insights.

DevOps Engineer | *Media.net (DirectI)*   June 2016 – Feb. 2018
Contextual Advertising and Core Infrastructure   *Mumbai, Maharashtra*

- Designed and developed **Spot Project**, an in-house cloud infrastructure provisioning framework for ephemeral IaaS resources and containerized applications.
    * Configurable with distributed container frameworks and multiple cloud providers. Pluggable with app specific provisioning strategies to optimize on availability, cost and/or performance.
    * Currently in production usage by multiple teams in the company for hosting stateless services.
- Deployed and operated data-center stacks on multiple AWS regions – automating server pools provisioning, unsupervised models training pipelines, metrics pipelines, monitoring and CI/CD with config management.

INTERNSHIPS

Summer Intern | *CISO Cybersecurity*
Content Development

May 2015 – July 2015
Gurgaon, Haryana

- Contributed to development of CISO courses, including but not limited to research, design and wireframing. Content related to cybersecurity, network security and mobile operating systems.

Summer Intern | *Rocketperks*
Full-stack Development

May 2014 – June 2014
Mumbai, Maharashtra

- Developed a full-stack e-commerce portal in Django and Celery for the corporate platform.

PROJECTS

Subverting Censorship in Anonymous Networks
B.Tech Thesis — with Dr. Sambuddho Chakravarty

IIIT Delhi
May 2015 – Aug. 2016

- Investigation of alternate ways to hide anonymous network (primarily Tor) exit traffic for specialized services using anonymous authentication measures.
- Deployed, configured and maintained a **private Tor network with 170+ nodes in PlanetLab** as a testbed.
- Evaluation of various anonymous auth. schemes like Port knocking, and Single Packet Authorization using Firewall Knock Operator (fwknop) on the testing network.

Non-intrusive Load Monitoring Toolkit (NILMTK)
with Dr. Nipun Batra (IIT Gandhinagar) and Dr. Amarjeet Singh

IIIT Delhi
Aug. 2014 – Jan. 2015

- NILMTK provides appliance power usage intelligence based on energy meter values. Developed Conda and PyPi deployment binaries for easier toolkit installations.
- Evaluated the ECO dataset and algorithms with pandas. Modified the toolkit framework to made the dataset compatible.

Monitoring Toolkit for Server Administration with SNMP
with Er. Navpreet Singh (IIT Kanpur) and Dr. Vinayak Naik

IIIT Delhi
Jan. 2014 – May 2014

- Helped in remote monitoring of college IT infrastructure by developing a tool to monitor switch/router metrics using SNMP MIBs and a pull-based model.
- Used RRDTool to help create a customized metrics logging and monitoring dashboard with a web interface.

RESPONSIBILITIES

- Secretary of Student Senate .... IIIT-Delhi *(2015–16)*
- Student Representative in the Undergraduate Council .... IIIT-Delhi *(2015–16)*
- Teaching Assistant for Network Administration .... IIIT-Delhi *(2015)*
- Teaching Assistant for C Refresher courses .... IIIT-Delhi *(2015,16)*

COMMUNITY SERVICE

Teacher, *Angel Xpress Foundation* .... Remote *(2020–Present)*

Volunteer, *New Delhi Rising* .... New Delhi *(2015–17)*

Donor and Volunteer, *BloodConnect* .... New Delhi *(2013–15)*

Volunteer, *Society for Nutrition, Education and Health Action (SNEHA)* .... Mumbai *(2013)*

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