Mayank Sharma

+91 9461240034 | mayank8019@gmail.com | msharma.in | GitHub | GitLab

EXPERIENCE

WALMART | Software Engineer
Aug 2020 – Present

- Designed and developed a Tenant-agnostic Ads Platform from scratch to fetch Display and Sponsored Ads to various business units of Walmart.
- **Improved the p95 RTT** (round-trip-time) from **800ms to 200ms** after migration to Ads Platform while serving **6 million req/hr** using Spring WebFlux.
- Have full ownership of multiple microservices, deployed on Kubernetes and with e2e telemetry setup using Prometheus, Splunk, Grafana and Dynatrace.

GNOME | Google Summer of Code (GSoC) Report
May 2019 – Aug 2019 | Mentor: Ondřej Holý

- **Improved build times by** ∼ **45%**, by porting libgdata from (*autotools + make*) to (*meson + ninja*) build system, by writing build files for compiling and linking a shared library consisting of 100+ objects.
- Developed a new API for libgdata (C library for Google Drive), and fixed the copy, move, delete and mkdir operations in GVfs.

WALMART LABS | Software Engineering Intern
May 2019 – July 2019 | Bengaluru, India

- **Improved the number of concurrent users/hr by 30%** by developing REST APIs for the Service Orchestration Layer.
- Developed and published **"mozart-utils"** (an npm package containing utility code) to Walmart's internal Nexus Repository

EARLYSALARY | Software Developer Intern
May 2018 – July 2018 | Pune, India

- Implemented centralized Authentication and Authorization, using JumpCloud's DaaS **(LDAP)**.

KEY PROJECTS

LLC SIDE & COVERT-CHANNEL ATTACKS
IIT Kanpur | Prof. Biswabandan Panda

- Successfully mounted a covert channel attack on a victim running some benign process on a different core, using the FLUSH + RELOAD attack on cache, achieving 65+% accuracy.

SECURE KEY-VALUE STORE | Systems Security Code
IIT Kanpur | Prof. Pramod Subramanyam

- Designed and implemented a secure key-value store (in Go) with sharing semantics under the assumption of a malicious datastore.

IMPROVING SECURITY OF ZOOBAR SERVER
IIT Kanpur | Prof. Pramod Subramanyam

- Exploited buffer overflow, format string, DoS vulnerabilities and crafted browser based attacks followed by fixing bugs and implementing principle of least privileges for better security.

GEM OS | Operating System Code
IIT Kanpur | Prof. Debadatta Mishra

- Implemented Multi-level paging, signals like SIGINT, SIGSEGV and SIGFPE, exception handlers like page-faults and divide-by-zero and added system calls like expand, shrink, write, sleep, clone, etc.
- Designed a scalable ext-2 like FUSE-based filesystem for GemOS.

EDUCATION

IIT KANPUR
B.Tech in Comp. Sci. & Engg.
Class of 2020: GPA: 7.0/10.0

CHILDREN SR. SEC SCHOOL
AISSCE Class XII (CBSE): 92.0%

CENTRAL ACADEMY SR. SEC SCHOOL
AISSE Class X (CBSE): 10.0/10.0

ACHIEVEMENTS

- All India Rank 630
  JEE Advanced 2016
- All India Rank 2237
  JEE Mains 2016
- All India Rank 854
  KVPY 2015
- All India Rank 1707
  NSTSE 2014

SKILLS

PROGRAMMING
Java (Spring Boot) •Typescript • C/C++ •Golang • python • bash • x86 Assembly • Glib

WEB
Node.js • Kubernetes • MongoDB

OSES & TOOLS
MacOS • Linux • Windows • gdb • Valgrind • meson • Git • Vim

COURSEWORK

- Compiler Design
- Malware Analysis and IDS
- Computer Networks
- Secure Memory Systems
- Security of Critical Infra.
- Parallel Computing
- Systems & Cyber Security
- Operating Systems
- Blockchain Tech. & Applications
- Intro. to Machine Learning
- Database Systems
- Data Structures & Algorithms
- Software Engineering