

Maninderpal Singh

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EDUCATION

Punjabi University

Department of Statistics — B.Sc. in Computer Science, Statistics and Mathematics

89.8 Percentile

Jul. 2019 – Jul. 2022

EXPERIENCE

Instahyre

SDE I

Sep 2023 – Present

New Delhi, India

- **Product Collaboration:** Partnered closely with Product Managers and cross-functional teams to design and implement features across in-progress and existing modules, contributing to iterative product improvements and timely feature delivery.
- **Platform Reliability:** Investigated and resolved a wide range of functional and performance issues across backend services, improving system stability, reducing recurring production bugs, and enhancing overall module reliability.
- **Module Ownership:** Owned multiple platform modules at different stages, taking responsibility for feature development, bug resolution and performance optimizations.

Buyceps

Software Engineer

Dec 2022 – Sep 2023

Mumbai, India

- **Lead backend engineer:** 'Buyceps Marketplace', producing fundamental platform level changes, such as unified authentication setup, order/shipment processing, data modeling etc
- **Search:** Developed an Algolia powered 'Product Browser', created DB indices and UI/UX for employees, to make browsing blazingly fast
- **Database load:** Responsible for noticeable optimizations on major GraphQL resolvers and REST APIs, effectively reducing the N+1 problem by 75 percent, in terms of SQL calls

Studypaq

Software Engineer

Oct 2022 – Dec 2022

California, United States

- **Security:** Discovered & fixed a critical vulnerability in company's payment accessible core product
- **API design:** Took responsibility of designing and developing core of the APIs and backend architecture for MVP Studyplan feature
- **Server performance:** Improved highly used endpoints' response by approx. 47% on average, improving initial server response time for SSR

PROJECTS

Hunter - Online contests hosting platform (SaaS)

Jan 2022 – Sep 2022

Repository Deployed at hunter.cambo.in

- **Backend:** Wrote the back-end architecture involving Node's ExpressJs in TypeScript, & PlanetScale for MySQL
- **Client side:** Leveraged Angular framework to build components/services in TypeScript, consuming REST APIs
- **Remote code execution:** Wrote Python & Bash scripts to run inside Docker container that compiles, executes and test participants' code; supporting C, C++, JavaScript and Python
- **Deployment:** An NGINX instance initially on Azure's VM & DB service, then migrating to Oracle & PlanetScale

DinoPlusPlus - A Terminal Based C++ Game (ASCII Graphics)

Apr 2021 – May 2021

Repository

- **Gameplay:** Programmed the entire game play mechanics, menu system & animations without any specialized console game engine or code library
- **Frame desynchronization:** Fixed by caching the frame until fully computed and then drawing all at once
- **Collision detection:** Implemented proper edge detection of any object colliding, render time

Contactless - WhatsApp's API driven android app

Jul 2020 – Aug 2020

Repository, XDA Forum

- **Android app:** Developed UI/UX using Kotlin consuming Web API allowing users to chat with any contact

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript GoLang, C/C++, Bash

Tools/Frameworks: Django, Angular, REST APIs, Git, Mercurial, NextJS, NodeJS, GraphQL, Microservices

Databases: MySQL, PostgreSQL, MongoDB

Cloud & DevOps: Docker, NGINX, Scripting, Azure, Oracle Cloud

Core Competencies: System Design, Performance Engineering, Management, Scalability, Data Structures & Algorithms, AI