

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

- **Module Ownership:** Owned multiple platform modules at different stages, taking responsibility for feature development, bug resolution and performance optimizations.
- **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.
- **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.

Buyceps

Software Engineer

Dec 2022 – Sep 2023

Mumbai, India

- **Backend Leadership:** Led backend development for Buyceps Marketplace, implementing unified authentication, order/shipment workflows, and core data models.
- **Search System:** Built an Algolia-powered product browser with optimized DB indexing and internal UI tools for fast, efficient search.
- **Performance Optimization:** Optimized major GraphQL resolvers and REST APIs, reducing N+1 queries and cutting SQL calls by 75%.

Studypaq

Software Engineer

Oct 2022 – Dec 2022

California, United States

- **Security & Performance:** Discovered and fixed a critical vulnerability in a paywall protected module.
- **API design:** Responsible of designing and developing core APIs and architecture.
- **Server performance:** Improved response time of high-traffic endpoints by 47%, reducing SSR latency.

PROJECTS

Hunter - Online contests hosting platform (SaaS)

Jan 2022 – Sep 2022

Repository Deployed at hunter.cambo.in

- **Architecture:** Engineered a full-stack SaaS using Node.js (Express, TypeScript), Angular, MySQL.
- **Code Execution Engine:** Created my own containerized remote execution service using GoLang, RabbitMQ.
- **Deployment:** Deployed using NGINX on Azure VM, later migrating infrastructure to Oracle Cloud and PlanetScale; currently self-hosted on bare-metal homelab.

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

Apr 2021 – May 2021

Repository

- **Gameplay Engine:** Built core gameplay, menu system, and animations from scratch without external libraries.
- **Rendering Optimization:** Resolved frame desynchronization by buffering frames before rendering.
- **Collision Detection:** Implemented real-time edge-based collision detection.

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

Databases: MySQL, PostgreSQL, MongoDB

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

Core Competencies: System Design, Performance Engineering, Management, Scalability, AI