

Chinmay Mandke

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EXPERIENCE

PTC

Pune, India

Software Engineer

Nov 2024 - Present

- **Architected and implemented systems-level APIs** for PTC's industry-leading CAD platform Creo customization TOOLKIT library, **enabling thousands of developers globally** to access core functionality through **C, C++, and JavaScript**.
- Delivered **thread-safe, multi-language integration** using **clean architecture patterns, intuitive semantics, and robust error handling**, with comprehensive debugging and troubleshooting for production workflows.
- Engaged in **full-lifecycle SaaS platform software engineering and design** for Creo's customization framework through cross-functional collaboration to **ideate, design, develop, test, and deliver** a robust web-based platform for managing Creo's customization applications. Contributed significantly to **system architecture, front-end development, and automated CI/CD pipelines** using modern DevOps practices.
- **Contributed to comprehensive automated testing frameworks** including unit and regression test suites that achieved 95%+ test coverage with minimal production issues.

Associate Software Engineer

Jul 2022 - Oct 2024

- Provided **early-stage rapid prototyping solutions** for **optimizing systems infrastructure and front-end design** by **performance monitoring and profiling** that led to **significant code deduplication** and **22% faster first-page load times** through **code optimization** and **caching strategies**.
- Collaborated with external developer ecosystem, providing **technical support and API integration guidance** to third-party developers, resolving **complex integration issues**, and improving developer tooling and experience by using **modern C++ development practices**.

R&D Software Engineer Intern

Aug 2021 - Jul 2022

- Engineered high-performance **multithreaded API indexing system** using libclang parsing in **Python** by **processing source parallelly** which **improved performance by 120%** over existing sequential implementation.
- Designed and implemented a Node.js backend with **RESTful architecture**, an optimized MongoDB database, and Angular frontend to enhance internal tooling infrastructure.

TECHNICAL SKILLS

Programming Languages: C, C++ (C++11/14/17), Python, JavaScript

Systems & OS: Multithreading, Concurrency, Linux/Windows Systems Programming, IPC, Virtualization, Network Programming, Performance Optimization, Debugging, Profiling

Architecture & Design: Distributed Systems, System Design, Microservices, RESTful APIs, gRPC, Design Patterns

Infrastructure & DevOps: Git, Docker, CI/CD (GitLab CI, GitHub Actions), Bash, Linux Command Line, Cloud Platforms (Azure Basics)

Web Technologies: Django, Angular, Node.js, Hugo, Cloudflare Workers, Databases, SQL/NoSQL Concepts

SYSTEMS ENGINEERING PROJECTS

Distributed File System with Cache Coherence

C++, C, gRPC, Protocol Buffers, inotify APIs

A distributed file system inspired by the Andrew File System, featuring file transfer protocols using gRPC and Protobuf, real-time file monitoring using Linux system calls, and a weakly consistent cache synchronization. [Request access](#).

Virtualization Resource Management System

C++, Python, libvirt APIs, Real-time Systems

A resource manager for virtualized environments with a vCPU scheduler for balanced pCPU workload with minimal overheads and a memory coordinator that adapts guest memory based on real-time usage. [Request access](#).

EDUCATION

Georgia Institute of Technology

Online and part-time

MS, Computer Science - Computing Systems Specialization

Aug 2024 - Present

- Pursuing GaTech's OMSCS program specializing in **Computing Systems**.

Savitribai Phule Pune University

Pune, India

BE, Information Technology - 9.64/10.0 CGPA

Aug 2018 - May 2022

- **Highest semester GPA** from 3rd semester in class of 80+ students. **Honors in Data Science**.
- **Multiple CTF competition wins** including **First place** in LakshyaCTF and **Second place** in VishwaCTF.