

Mayank Jain

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PROFESSIONAL SUMMARY

Seasoned Technical Professional with over **10 years of experience** specializing in building highly distributed systems, operating system development, and extended reality (AR/VR) technologies. Proven track record of architecting solutions for systems serving **over 3 billion users globally** and deploying innovations across millions of servers. Expert in performance optimization, Linux kernel development, and real-time sensor fusion.

EDUCATION

State University of New York (Binghamton University), Binghamton, NY Aug 2016 – May 2018
Master of Science in Computer Science (GPA: 4.0/4.0)
• Coursework: Advanced Operating Systems, High Performance Computing, Machine Learning, Algorithms.
Pune University, Pune, India Aug 2008 – May 2012
Bachelor of Engineering in Computer Science (First Class with Distinction)

EXPERIENCE

Meta Platforms Inc. July 2018 – Present
Software Engineer, Reality Labs

- **Orion AR Glasses:** Architected and led the development of end-to-end tracking and input infrastructure for "the most advanced glasses the world has ever seen".
- Developed **hand and eye-tracking pipelines** using miniature near-infrared cameras and computer vision, optimizing sensor fusion for **sub-20 ms latency**.
- Optimized camera stacks for VR/AR to ensure low CPU, GPU, and memory consumption in virtual environments.
- Integrated system-level software into **Android Open Source Project (AOSP)** to support next-generation hardware tracking.

Software Engineer / Production Engineer, Ads & Core Infra

- **Transparent Memory Offloading (TMO):** Designed and implemented Linux kernel modules for a novel memory-tiering solution.
- Deployed TMO across **millions of servers**, achieving **20–32% memory savings** per server and significantly reducing data center power consumption and costs.
- Engineered and optimized Meta's **service router**, a core infrastructure component handling billions of requests daily across Facebook, Instagram, and WhatsApp.
- Managed cloud services for 3 billion+ users, optimizing compiler performance and ad delivery infra using C++ and Python.

Amdocs July 2012 – July 2016
Senior Software Developer

- **Team Leadership:** Led a cross-functional Scrum team of five engineers, achieving a 38% reduction in defects.
- Developed high-performance, multi-threaded invoicing solutions in C++ for major telecom providers including Telefonica (Argentina/Brazil).
- Increased team revenue by 4% through the delivery of scalable, real-time data processing modules.

SELECTED PUBLICATIONS & AWARDS

- **ASPLOS 2022 Best Paper Award:** "TMO: Transparent Memory Offloading in Datacenters." Recognized for technical excellence in data center infrastructure.
- **CACM Research Highlight (2025):** Selected by the ACM editorial board as one of the most influential results across Computer Science.
- **Linux Kernel Contribution:** Core mechanisms of the TMO project (Pressure Stall Information - PSI) successfully upstreamed into the **official Linux Kernel**.

- **SMARTCOMP Conference:** "Predictive Analytics for Smart Water Management in Developing Regions." Applied AI to optimize resource management in Tanzania.
- **Citations:** Over **180+** citations for published research in prestigious academic venues.

TECHNICAL SKILLS

Languages: C++, Python, Java, C++11/14, SQL.

Systems: Linux Kernel Development, AOSP, Distributed Systems, High-Performance Computing.

Specializations: AR/VR (XR), Computer Vision Tracking (Hand/Eye), Sensor Fusion (SLAM, IMU), Cloud Infrastructure, Memory Management, Real-time Systems.

Tools: Git, Mercurial, Thrift, Android Studio, Agile Methodologies.