Ehtesham Siddiqui

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Education

Master of Science in Computer Engineering <div align="right">New York, USA</div>
New York University **GPA: 3.72** <div align="right">Sep 2024 – May 2026</div>

Bachelor of Engineering in Computer Engineering <div align="right">Mumbai, India</div>
University of Mumbai **GPA: 3.31** <div align="right">Dec 2020 – May 2024</div>

Work Experience

Technology Innovation Catalyst (VIP), NYU <div align="right">*Sep 2025 – Present*</div>
Software Engineer — Backend & Distributed Systems <div align="right">New York, USA</div>

- Designed and implemented backend services and APIs using Python and Next.js, accelerating MVP delivery by 30%.
- Built a scalable carbon-footprint computation engine using optimized data models and algorithms, reducing execution time by 40%.
- Translated product and system requirements into technical design docs and specifications, improving sprint estimation accuracy by 25%.

Civic Group Inc. <div align="right">*Aug 2025 – Sep 2025*</div>
AI/ML Engineering Intern <div align="right">New York, USA</div>

- Developed a production-grade backend record-linkage service using TypeScript, PostgreSQL, and Prisma, processing 5K+ records.
- Applied data structures (hash maps, batching) and indexing strategies to reduce system latency by 45%.
- Built distributed AI pipelines using Python, LangChain, and asyncio, achieving 80%+ F1 accuracy with improved reliability.

Serenity Healthcare Solutions <div align="right">*May 2022 – Feb 2023*</div>
Co-Founder & Backend Engineer <div align="right">Mumbai, India</div>

- Co-founded a healthcare SaaS platform delivering e-prescription services to 10K+ patients across tier-2/3 cities.
- Architected and deployed React + Django + MySQL backend systems supporting 100+ doctors in production.
- Designed normalized schemas and optimized queries, improving backend performance and reliability by 30%.
- Authored system architecture and scalability trade-offs in an IEEE publication.

Projects

NoteForge [Next.js, Prisma, WebSockets (CRDT)] *Link* <div align="right">*Sep 2025*</div>

- Built real-time collaborative backend services supporting 10+ concurrent users with conflict-free synchronization.
- Optimized distributed sync algorithms achieving sub-50ms latency under concurrent edits.
- Implemented RBAC, audit logs, and secure sharing ensuring data integrity and access control.

IntelliCast — Agentic Political Events AI [Python, Flask, LangChain] *Link* <div align="right">*Jul 2025*</div>

- Developed backend AI services integrating multiple APIs for multi-step reasoning.
- Built evaluation pipelines to detect hallucinations and low-evidence outputs, improving answer reliability by 90%.
- Optimized inference pipelines using vectorized computation, improving performance by 40%.

Skills

Languages:	Python, C++, C, JavaScript, TypeScript, SQL, Bash
CS Fundamentals:	Data Structures, Algorithms, Concurrency, Distributed Systems
Frameworks:	Django, Flask, Node.js, Express.js, React, Next.js, Prisma
Databases:	PostgreSQL, MySQL, MongoDB, Redis
Cloud & DevOps:	AWS (EC2, S3, Lambda, RDS, CloudWatch), Docker, Kubernetes, CI/CD

Research

AI and ML for Enhancing Crop Yield and Resource Efficiency in Agriculture *IEEE Link* <div align="right">*Dec 2023*</div>

- Implemented CNNs for precision farming, achieving 92% crop-stress detection accuracy from satellite & sensor data.
- Designed an analytics-based scheduler reducing agricultural inputs by 25%.

Streamlining Clinical Practice Management *IEEE Link* <div align="right">*Nov 2023*</div>

- Developed an Android portal for virtual consultations, reducing admin tasks by 30%.
- Enhanced care access potentially saving 122 lives per 100k annually.

Edge IoT Blockchain Framework - 20234105300 *Patent Link* <div align="right">*Aug 2023*</div>

- Patented an edge blockchain framework ensuring sub-second data integrity.
- Created incentive model boosting throughput by 40%.
- Introduced hybrid PoA consensus for secure, low-energy IoT operations.