Rishi Raj Bobbarapalli

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SUMMARY

Software Engineer (M.S. CS, GPA 4.0, May 2026) with full-stack, backend, and cloud experience. Skilled in building **scalable systems, APIs, and distributed applications** with expertise in **Python, GoLang, JavaScript, Java, and C++**. Strong background in **CI/CD, reliability engineering, and secure software practices**, with proven impact across research, internships, and production-ready projects.

EDUCATION

University of North Carolina at Charlotte (GPA:4.00/4.00) — Charlotte, NC
Master of Science in Computer Science — *Aug. 2024 – May 2026*

- **Relevant Coursework:** Algorithms and Data Science, Computer Communications and Networking, Artificial Intelligence, Visual Analytics, Software System Design and Implementation, Big Data and Analytics, Programming with Java and C++

Institute of Aeronautical Engineering (Afltd JNTUH) — Hyderabad, India
Bachelor of Science in Computer Science — *Aug. 2020 – May 2024*

EXPERIENCE

Research Assistant — Aug. 2023 – May 2024
Institute of Aeronautical Engineering — *Hyderabad, India*

- Benchmarked **1,000+ IPFS/Web3 trials**, analyzing **latency and throughput** to evaluate decentralized scalability.
- Built alias-based file retrieval improving access speed by **35%**, enhancing usability for large-scale systems.
- Conducted evaluations on upload/retrieval mechanics, measuring throughput and latency to inform scalability analysis.
- Contributed to research on **Blockchain and Smart-Contract architectures** for secure distributed platforms.

Software Developer Intern — Nov 2022 – May 2023
SYNTHEIM (Mobile App Startup) — *Hyderabad, India*

- Designed and deployed **8+ RESTful microservices (Node.js, MongoDB)**, reducing average query latency by **30%**.
- Built a full-stack **MERN application** that automated workflows, boosting team productivity by **25%**.
- Refactored backend code to eliminate redundancies, cutting **server CPU usage by 20%** and improving scalability for concurrent users.
- Implemented **CI/CD pipelines (GitHub Actions)** with **95% test coverage** for reliable, automated deployments.

Teaching Assistant - Web Development — Sep. 2022 – May 2023
GDSC, Institute of Aeronautical Engineering — *Hyderabad, India*

- Taught 750+ students React, HTML/CSS, and Git through 15+ workshops, raising project completion by **40%**.
- Created structured learning paths and coding challenges, driving a **25% increase** in project submissions.
- Coordinated hackathons (**1,000+ participants**), helping launch **20+ student-built applications**.

PROJECTS

Decentralized File Sharing Platform — sharenit.vercel.app
Next.js, Node.js, Express, PostgreSQL, Prisma, Redis, IPFS, JWT, OAuth, Tailwind CSS

- Built a production-grade distributed platform supporting **200+ uploads** with **100% uptime under stress tests**.
- Solved caching bottlenecks, reducing fetch times from **514ms → 2.8ms (180x faster)**.
- Implemented secure authentication with **JWT + Google OAuth 2.0**, enabling persistent multi-session access across protected routes.
- Designed a responsive frontend UI improving load time by **43%**, driving **2.4x higher user engagement**.

GoShare – P2P File Sharing App — GitHub
GoLang, Gin, Tailwind, HTML/CSS

- Developed a cross-platform P2P app with **¡100ms response time** on local networks.
- Integrated **QR-based pairing, Brotli compression, and CSRF protection** for secure, frictionless transfers.
- Reduced redundancy by **35%+** with MIME-type inference and local caching in multi-user tests.

TECHNICAL SKILLS

Languages: Python, GoLang, JavaScript, TypeScript, Java, C, C++
Web Development: React.js, Next.js, Node.js, Express.js, Tailwind CSS, Bootstrap, Chakra UI
Data/ML: Pandas, NumPy, Scikit-learn, Matplotlib, TensorFlow, PyTorch
Backend/API: REST APIs, Prisma, JWT, OAuth 2.0
Databases/Caching: PostgreSQL, MongoDB, Redis, Firebase
Systems: Distributed Systems, Scalability, Concurrency, Latency Optimization
Tools/Platforms: Git, Docker, GitHub Actions (CI/CD), Postman, Figma, VS Code, PyCharm