# Yash Rathi

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## Summary

Software Engineer who thrives at the intersection of scalable systems and emerging AI, with a track record of taking ideas from 0 to 1 concept through 1 to 100 scale. Spent 3+ years at Optum building healthcare technology infrastructure for 100K+ users, where I led a CI/CD overhaul that transformed our 45-minute builds into 18-minute deployments. Currently pursuing MS in Computer Science, diving deep into LLMs and computational linguistics while bridging research and real-world applications.

## SKILLS

**Languages:** Java, Python, JavaScript, TypeScript, C++, SQL, Groovy, MATLAB
**Frontend:** React, Next.js, HTML/CSS, Jest, Vite, Cypress, Responsive Design, UI/UX
**Backend & APIs:** RESTful APIs, OAuth 2.0, JWT, SCIM, Flask, JUnit, pytest, Microservices
**Cloud & Infrastructure:** Azure, AWS, Google Cloud, Docker, Kubernetes, Terraform, CI/CD, GitHub Actions, Jenkins
**Databases:** MySQL, PostgreSQL, NoSQL
**Data & AI/ML:** Tableau, NumPy, SciPy, OpenCV, Git, YOLO, MPI, OpenMP, CUDA, Machine Learning, LLMs
**Domain**: Healthcare Technology, HIPAA Compliance, Member Privacy Standards

## EDUCATION

| | |
|---|---|
| MS in Computer Science (Research Track) | *SUNY at Buffalo, NY (GPA: 3.71 / 4)* | **August 2024 - May 2026** |
| B.Tech in Computer Science | *SRMIST, India (GPA: 9.2/10)* | **August 2017 - May 2021** |

## WORK EXPERIENCE

**Graduate Research Assistant** | *University at Buffalo*                    **Mar 2025 – Current**
- Architected and deployed **full-stack research platforms** processing **10,000+ linguistic data points**, integrating **machine learning models** and LLMs for automated analysis and model evaluation.
- Designed and executed **3+ computational experiments** analyzing cross-linguistic patterns, optimizing **data processing pipelines** that reduced analysis time by **60%** .
- Developed **scalable backend systems** and **interactive dashboards** supporting multi-researcher collaboration, enabling real-time data visualization and experimental result tracking.

**Software Engineer** | *Optum (UnitedHealth Group - Healthcare)*                    **July 2021 – July 2024**
- **Implemented IAM system** using SCIM and Azure AD, streamlining authorization for **100K+ users** and **reducing access incidents by 40%**.
- **Spearheaded CI/CD migration** from Jenkins to GitHub Actions, **cutting build times from 45 to 18 minutes** and enhancing deployment efficiency by 40%.
- **Engineered role-based authorization system** with OAuth 2.0 and JWTs, managing access for 100K+ users while streamlining onboarding processes.
- **Developed scalable RESTful APIs, microservices, and frontend solutions**, resulting in **30% improvement** in application response times and user satisfaction
- **Led code reviews and mentored new hires**, designing Azure architecture and developing features that boosted overall team productivity

## PROJECTS

**Deadcode Detective: CLI Tool for Code Cleanup**                    **February 2025 - Present**
- **Engineered TypeScript/Node.js CLI tool** detecting unused code across JS/TS/Python codebases, **achieving 400+ npm downloads**
- **Integrated ts-prune and vulture engines** for comprehensive scanning, **reducing project sizes by 15%** with actionable reports
- **Architected extensible plugin system** with CI/CD integration and JSON/HTML outputs, streamlining developer workflows

**MindVault: AI-Powered Bookmark Organizer**                    **November 2024**
- **Won "Best AI/ML Project" at UBHacking** by developing intelligent Chrome extension with ML-driven categorization serving **200+ demo users**
- **Built responsive React dashboard** with full CRUD operations, **improving bookmark retrieval speed by 75%** through automated organization
- **Implemented Flask backend with K-means clustering** processing 1,000+ bookmarks per session, **delivering 90%+ accuracy**

**Soccer Video Analysis using Computer Vision**                    **July - August 2024**
- **Developed real-time player tracking system** using YOLO object detection and OpenCV, **processing 30 FPS video streams with 95% accuracy**