

# Rohit Biswas

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## EDUCATION

### Columbia University

*Bachelor of Science in Computer Science*

**Hackathon wins:** DivHacks 2025 (MLH Award), MakeCU 2025 (3rd Place)

New York, NY

*Expected May 2027*

## EXPERIENCE

### Mutual of Omaha

*Software Engineer Intern*

- Incoming Software Engineer Intern

Jun 2026 – Aug 2026

*Omaha, NE*

### Columbia Technology Ventures

*Systems Engineer*

- Engineered workstation provisioning across 100+ machines with Bash/PowerShell deployment pipelines, scheduled validation jobs, and rollback mechanisms, cutting manual setup time by 40%
- Implemented centralized log monitoring with automated alert routing for 500+ daily events, reducing incident response time from 25 min to 10 min average
- Designed BIOS/software deployment system with staged weekly rollouts and automated smoke tests, eliminating cross-machine configuration drift

Oct 2025 – Present

*New York, NY*

### NYCHA

*Cybersecurity Intern*

- Triaged 20+ security incidents in Splunk ES, building reusable SPL query templates that cut investigation time by 40% and became team standard
- Identified and tracked remediation for 50+ vulnerabilities across external web applications using Veracode DAST, reducing open findings by 30% in 6 weeks

Jun 2025 – Aug 2025

*New York, NY*

### Fordham University

*IT Engineer*

- Streamlined enterprise software deployment across 200+ workstations using PowerShell, Python, and Bash, reducing deployment time by 70%
- Integrated PowerFAIDS, Crowdstrike, and LANDESK platforms via REST APIs and containerized services for cross-platform data synchronization

May 2023 – Jun 2025

*Bronx, NY*

## PROJECTS

### PageRank Visualizer | React, React Flow, Framer Motion, Tailwind CSS

[Live Demo](#) | [GitHub](#)

- Built an interactive PageRank visualization featuring real-time graph construction, power iteration animation, and convergence tracking with L1 norm delta display, complementing a research paper for Applied Linear Algebra
- Engineered a generator-based algorithm pipeline with step-through debugging, adjustable damping factor ( $\alpha$ ), and comparative centrality analysis (PageRank vs. In-Degree vs. Eigenvector) across preset graph topologies

### Stemme.Study | MLH Award Winner | Python, React, Node.js, Gemini API, ElevenLabs

[Devpost](#) | [GitHub](#)

- Developed real-time speech therapy tool processing audio streams through Web Speech API to Gemini for response generation to ElevenLabs TTS, achieving sub-500ms end-to-end latency
- Architected React/Express stack with WebSocket connections for live transcription feedback and session persistence

### AutoDump | 3rd Place, MakeCU | Raspberry Pi, OpenCV, Python, C++, Arduino

[Devpost](#) | [GitHub](#)

- Engineered autonomous rover with OpenCV ArUco marker detection for vision-based docking ( $\pm 2\text{cm}$  accuracy) and ultrasonic proximity sensing for obstacle avoidance
- Implemented servo-controlled dump mechanism with Arduino/ROBOTIS integration and Python state machine for autonomous operation cycle

### HTTP/1.0 Web Server | C, POSIX Sockets, HTTP/1.0

[GitHub](#)

- Built multithreaded C web server handling concurrent connections via POSIX sockets with proper request parsing, MIME type detection, and path traversal protection
- Integrated persistent TCP backend connection for dynamic database lookups with connection pooling

## TECHNICAL SKILLS

**Languages:** C, C++, Python, JavaScript/TypeScript, SQL (PostgreSQL), Java, HTML/CSS

**Web & APIs:** React, Node.js, Express, FastAPI, Flask, REST APIs, WebSockets

**Systems & Infrastructure:** Linux/UNIX, Docker, Kubernetes, Bash, PowerShell, CI/CD, Splunk, Git

**Hardware/CV:** OpenCV, Arduino, Raspberry Pi, sensor integration