

Pratik Rajbhandari

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Full-stack Software Engineer with 5+ years of experience in Java, Node.js, .NET, and React, plus an M.S. in Computer Science. Specialized in scalable application architecture, API integration, and high-performance code development. Proven record of leading small teams, modernizing legacy codebases, and shipping accessible, production-grade software.

SKILLS

- **Languages and Scripts:** TypeScript (TS), JavaScript (JS), Java, C#, Python, HTML, CSS, SCSS
- **Frameworks and Libraries:** ASP.NET, React, Node.js, NestJS, Express, Tailwind CSS
- **Database:** MySQL, PostgreSQL, MongoDB
- **Version Control:** Git, GitHub
- **Containerization:** Docker
- **Cloud/Tools:** AWS
- **Testing Libraries:** Jest, Mocha, Sinon

PROFESSIONAL EXPERIENCE

Graduate Assistant – Programmer

October 2024 – April 2026

University of Cincinnati, Ohio, USA

- Migrated a legacy codebase from shared network drives to Git, enabling local development, team collaboration, and reliable production deployments which reduced deployment errors by 30%.
- Designed and optimized stored procedures for CRUD operations, reporting, and external API uploads improving query performance 50% and ensuring accurate data delivery.
- Built a template-driven PDF generation system with TinyMCE and Aspose.PDF, enabling non-technical staff to produce rich-text, accessible documents with no code.
- Audited and remediated multiple web applications with the WAVE tool to achieve WCAG / ADA compliance, improving usability for users with disabilities across 5 applications.

Software Engineer

September 2020 – July 2024

Leapfrog Technology, Nepal

- Integrated patient data from Epic via SMART on FHIR, delivering secure, HIPAA-compliant data exchange across 3 clinical workflows.
- Led a team of 5 engineers through Agile sprints, owning task planning and on-time delivery of 9 project milestones.
- Migrated a legacy JavaScript codebase to TypeScript, introducing static typing that reduced runtime bugs by 20% and improved maintainability.
- Designed and implemented RESTful APIs in Node.js, delivering scalable and secure business logic for applications supporting over 500 concurrent users with over 10000 requests per day.
- Wrote comprehensive unit tests to ensure code quality, reduce regressions, and support reliable CI/CD deployments.
- Optimized database queries, schemas, and API performance, reducing latency by 25%.
- Collaborated with Product Owners and stakeholders to gather requirements and prioritize features for development as team lead.
- Mentored and onboarded new hires and interns across Node.js, React, TypeScript, and PostgreSQL.

PROJECTS

ARP Emulator

January 2025 – April 2026

- Developed a web-based ARP emulator that enables interactive visualization of ARP protocol behavior and ARP spoofing attacks for cybersecurity education.
- Designed and implemented core system components and collaborated with faculty to refine features based on instructional requirements.
- Conducted performance and scalability testing, demonstrating stable operation with support for over 300 concurrent students.
- Technologies Used: NodeJS, React, Typescript, Socket.io, Docker

C-x86 Emulator

October 2025 – March 2026

- Collaborated with faculty to extend an educational software platform for teaching assembly language and computer systems concepts.
- Implemented enhancements that improved the platform's functionality, user experience, and effectiveness for undergraduate learning.
- Contributed to a project culminating in a peer-reviewed publication at the 2026 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE).
- Technologies Used: NodeJS, React, Typescript, Linux

EDUCATION

Master of Science, Computer Science

August 2024 – April 2026

University of Cincinnati, Ohio, USA

GPA: 4.0

- Thesis title: "Web based interactive visualization for understanding ARP and ARP spoofing"
- Selected Courses: Artificial Intelligence, Machine Learning, Cyber Defesne Overview, Computer Networking, Distributed Operating Systems, Advanced Algorithms I, Advanced Algorithms II

Bachelor of Engineering, Computer Engineering

August 2016 – November 2020

Kathmandu University, Nepal

GPA: 3.65

CERTIFICATIONS

AWS Certified Developer Associate

Credential ID: B44CNCG20BRE1KKK

PUBLICATIONS

- Giovanni Abuhaitah, **Pratik Rajbhandari**, Chloe Belletti, Preston Buterbaugh, Madilyn Coulson, Foster Yeboah, and Isabella Hall. 2026. C-x86 Emulator: A Web-Based Interactive Tool for Understanding x86-64 Assembly and Visualizing C Program State. In Proceedings of the 31st ACM Conference on Innovation and Technology in Computer Science Education V. 1 (ITiCSE 2026). Association for Computing Machinery, New York, NY, USA, 604-610. <https://doi.org/10.1145/3803400.3809402>
- P. Rajbhandari, "Web based interactive visualization for understanding ARP and ARP spoofing", Master's Thesis, University of Cincinnati, 2026