

# Pratul Muthuraja

Portfolio: [pratulmuthuraja.com](https://pratulmuthuraja.com)

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## EDUCATION

- Illinois Insitute of Technology** Chicago, USA  
*Master of Computer Science* January 2021 - May 2023
- Anna University** Chennai, India  
*Master of Computer Science* June 2014 - May 2018

## SKILLS

Languages	Python, Go, JavaScript, SQL, Bash, HTML/CSS, Markdown
Frameworks	Django, Flask, ReactJS, NodeJS, LAMP
Tools	Kubernetes, Docker, GIT, PostgreSQL, MySQL, SQLite, NGINX, Helm, Gatsby, Hugo, Jenkins, ChatGPT, Grafana, Loki, Ceph, Prometheus, Ansible
Platforms	Linux, Web, Mac, AWS, GCP
Soft Skills	Leadership, Event Management, Writing, Public Speaking, Time Management

## EXPERIENCE

- Armour Chapter of Triangle** Chicago, USA  
*Full-Stack Developer (Volunteer, Full-time)* November 2023 - November 2024

### Organization Website

- Tech Stack:** React.js, Nodejs, Javascript, TailwindCSS, PostgreSQL.
- Built a full-stack web application to securely manage social and event data for over 200K members.
- Overhauled backend architecture, optimizing database queries and caching strategies to bring API response times under 100ms while cutting operational costs by 60%.
- Designed and implemented event-driven batch jobs for real-time notifications and automated task scheduling, improving engagement and workflow efficiency.
- Led UI/UX development, working closely with stakeholders to create Figma wireframes and translating them into a highly responsive React frontend.
- Improved system reliability to 99.99% uptime by setting up load balancing, auto-scaling, failover mechanisms, and database replication, minimizing downtime and ensuring high availability.

### Private Cloud Infrastructure for Scalable EdTech Delivery

- Tech Stack:** Proxmox VE, Ceph, Kubernetes (k3s), Terraform, Ansible, ArgoCD, Helm, Prometheus, Grafana, Loki, Alertmanager, OpenTelemetry, Vault, WireGuard, Cosign, Trivy
- Set up a 3-node Proxmox VE cluster with Ceph storage to run a containerized EdTech platform supporting video lessons and interactive training modules.
- Built a CI/CD pipeline using Terraform, Ansible, ArgoCD, Helm, and k3s to streamline deployments of new course content and platform features.
- Rolled out a full observability stack with Prometheus, Grafana, Loki, and OpenTelemetry to keep tabs on system health and handle high traffic during academic peaks.
- Locked down access for instructors and developers with Vault for secrets management and WireGuard for secure, remote connectivity.
- Brought hosting costs down by 60% while maintaining 99.99% uptime, freeing up budget for content and engagement initiatives.

### Internal Student Grievance & Feedback Portal

- Tech Stack:** React.js, Node.js, PostgreSQL, TailwindCSS, Framer Motion, Jest.
- Led end-to-end development of a secure feedback and grievance portal for university students, enabling real-time issue tracking and reducing resolution time by 40% through streamlined departmental workflows.
- Designed and deployed a role-based web platform using React.js, Node.js, and PostgreSQL, with full support for anonymity, notifications, and searchable case history for admins and faculty.

- Illinois Institute of Technology** Chicago, USA  
*Graduate Student Ambassador (Part-time)* August 2021 - December 2022

- Managed databases and generated reports on Salesforce; Analyzed prospective student data to improve response to Graduate Discover Day event resulting in 19% growth of incoming graduate students compared to 2020.
- Strong leadership and collaboration skills evidenced by organizing recruitment activities through campus tours, student panel, and events for the Graduate Admissions Office showing 37% better response rate.

- Narayana Glass Company** Madurai, India  
*Business Development Manager (Full-time)* June 2018 - December 2020

- Upgraded heavy machinery resulting in increased productivity by 25% and implemented better safety standards.
- Achieved national market penetration resulting in 15% sales increase and 10% market value increase.