Pratul Muthuraja

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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.