

Pavan Ramachandra Rao

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Available Jan 2025 for internships and co-ops and May 2025 for full time roles

EDUCATION

Master of Science (MS), Computer Science

Sep 2023 – May 2025 (expected)

GPA – 4.0/4.0, **Khoury College of Computer Sciences**, Northeastern University, Boston, MA, USA

Coursework – Programming Design Paradigm, Database Management Systems, Algorithms, Scalable Distributed Systems

Bachelor of Engineering (BE), Computer Science and Engineering

Jul 2015 – Aug 2019

CGPA – 8.26/10, **SJB Institute of Technology**, Bangalore, Karnataka, India

Coursework – Algorithms, Data Structures, Networks, Operating Systems, Databases, Compilers, Computer Architecture

SKILLS

Languages: Go (Golang), Java, JavaScript, Python, Shell (Bash)

Cloud and Databases: Kubernetes, Docker, PostgreSQL (Postgres), MySQL, MongoDB

Web: HTML, CSS, Tailwind CSS, Figma, Adobe XD, Django, React

Technologies: gRPC, Protocol Buffers, Kafka, Grafana, Git

EXPERIENCE

Software Engineering Intern, Infoblox, Tacoma, WA

May 2024 – Present

- Responsible for designing and building health monitoring infrastructure for the control and network data planes on the Infoblox NIOS-X (SaaS) product as part of the BloxOne Platform team.
- Tech stack - Go, Kubernetes, Docker, Prometheus, and Grafana.

Graduate Research Assistant (part-time), Northeastern University, Boston, MA

Jan 2024 – Present

- Assisting Prof. Shawn Bhimani, working with the **Supply Chain Data Hub** research group, responsible for the strategizing and delivery of migration of the supply chain web app "supplytrace.com" to the cloud (potentially used by up to **60%** of the forced labour task forces across the world).
- Owner of the cloud infrastructure for Supply Trace as well as responsible for maintenance of the Supply Trace backend.
- Tech stack - Docker, Django (Python), React, Postgres, Linux, Azure.

Software Engineer I, Infoblox, Bangalore

Nov 2021 – Jul 2023

- Led back-end development** for the new Locations feature, based on address geocoding, associating with BloxOne infrastructure, and helping customers visualize their infra deployments. **Projected use by ~70% of Infoblox customers.**
- Designed (HLD/LLD) and implemented** the Data Import/Export for Infrastructure feature from scratch, based on the Kubernetes Storage API layer patterns. **Used by ~50% of the BloxOne customers** to migrate their infrastructure to Infoblox.
- Major contributor (~50% of back-end)** for the Templates feature that helps customers reduce their BloxOne network services infrastructure deployment times **by up to 80%.**
- Contributor to the migration of the Host Infrastructure management feature, successfully enabled **high availability (HA)** for Hosts in the BloxOne Cloud platform, improving ease of network management for users.
- Developed an error caching and tolerance library for On-Prem platform services to reconnect to the BloxOne cloud platform during disconnections. **Eliminated 100% of unwanted notifications** to customers due to cloud service restarts and Ingress config reloads and significantly saving storage costs for notifications in the cloud.

Systems Engineer, Tata Consultancy Services, Bangalore

Jul 2019 – Nov 2021

Backend Engineer (Cloud Storage), IBM Cloud

Mar 2020 – Nov 2021

- Owned** 5 zonal Kubernetes control plane services (controllers) for the VPC File and Block Storage feature.
- Led** a team of 4 to determine and resolve security vulnerabilities found in SOC2 compliance code audits. **Personally handled ~40% of the issues** in the IBM Cloud Storage zonal Kubernetes control plane services.
- Mentored and helped scale the TCS team at IBM** from around 13 developers to a 100+ strong team.
- Developed** a concurrent stress testing script in Go to detect File storage object leaks in the cluster, resulting in the detection of 10+ critical bugs within a week of deployment.
- Contributed to the developer reference and onboarding documentation, **helping ~90% of new hires.**
- Created tooling (shell scripts) for setup of developer environments **improving setup times by ~25%** for all developers.

Full Stack Developer, Exelon

Jul 2019 – Mar 2020

- Owned end-to-end development** of 10 user flows using Angular and Spring for an electricity outage monitoring system.
- Created the initial front-end UI codebase** for the complete product including reusable Angular components and containers, routing, authentication, as well as various global helpers.
- Contributed to the **optimization of existing flows** by migrating from JSP to Angular, **reducing load time by ~40%.**
- Created 15+ **secure REST API endpoints** for existing application logic using Spring along with Swagger API documentation.

PROJECTS

Scaling BloxOne Services, Infoblox (*for the Infoblox Hackfest 2022*)

May 2022

- Designed a **proof-of-concept for dynamically scaling BloxOne services** for the Infoblox Hackfest 2022 hackathon. Built a Kubernetes Operator to shard the control and data planes for each BloxOne service (would help Infoblox scale the Platform on-demand based on customer requirements and for data privacy, helping win over new data-sensitive customers).
- **First place winner** in the Infoblox Hackfest 2022 among over 150 teams of 4-6 members.

Automated System to Diagnose Pneumonia, SJB Institute of Technology (*capstone project*)

Sep 2018 – May 2019

- Built an automated system to diagnose pneumonia from chest X-Ray images using a custom Convolutional Neural Network model based on ResNet. Achieved a **validation accuracy of 94%**.
- Designed and developed a mobile-friendly web UI using **Python Flask**, usable by anyone with basic internet access.

CERTIFICATIONS

Certified Kubernetes Application Developer (CKAD)

Jan 2024 – Jan 2027

Issued by The Linux Foundation and the Cloud Native Computing Foundation (CNCF), Credential ID: LF-Ig71fpkqqb