Pavan Ramachandra Rao

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EDUCATION

Master of Science (MS), Computer Science **Sep 2023 – May 2025 (expected)**
Northeastern University, Boston, MA, USA

Bachelor of Engineering (BE), Computer Science and Engineering **Jul 2015 – Aug 2019**
CGPA – 8.26, SJB Institute of Technology, Bangalore, KA, India

SKILLS

Languages: Go (Golang), Java, JavaScript, Python, Shell (Bash)
Cloud and Databases: Kubernetes, Docker, PostgreSQL, MySQL, MongoDB
Web: HTML, CSS, Tailwind CSS, Figma, Adobe XD
Technologies: gRPC, Protocol Buffers, Kafka, Grafana, Git

EXPERIENCE

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% 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 toleration 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).
- **Won first place** 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.

ACHIEVEMENTS

- **Winner**, Infoblox Hackfest 2022 annual company hackathon **May 2022**
  First place among all engineering teams, for the "Scaling BloxOne Services" project.
- **Spot Bonus Award**, awarded twice at Infoblox **Jun 2022, Feb 2022**
  Awarded for collaboration, and excellent performance in ownership and delivery of critical projects.
- **Special Initiative Award**, Tata Consultancy Services **Oct 2020**
  Awarded for excellent performance with IBM on their VPC File Storage feature.