Abhilash Nambissan

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Education

Rutgers University - New Brunswick Aug 2023 - May 2025
Master of Science in Computer Science (GPA: 4.00 / 4.00) *New Brunswick, NJ*

- **Research:** OS Support for Near-memory computing.
- **Teaching:** Part Time Lecturer + Teaching Assistant for CS518 Operating Systems Design.

VIT University Jul 2014 - May 2018
Bachelor of Technology in Computer Science (GPA: 3.75 / 4) *Vellore, India*

Experience

Calix May 2024 – Aug 2024
Software Engineering Intern - Cloud Platform *New York City, NY / New Brunswick, NJ*

- Designed and implemented an automated ETL pipeline to gather and store the company's AWS usage and cost data.
- Developed a graphic dashboard which shows accurate chargeback/showback of cloud costs for different product teams in the company, and identified opportunities to reduce monthly AWS costs by 20%.
- Developed Terraform modules to automate configuration and deployment of 30+ resources across multiple environments.
- *Go, Python, Kubernetes, Terraform, AWS*

VMware Mar 2022 – Aug 2023
Member of Technical Staff 2 *Bangalore, India*

- Designed and implemented several Kubernetes custom resources (CRDs) and controllers for the Tanzu Mission Control platform, for lifecycle management of multi-cloud multi-cluster Kubernetes infrastructure.
- Built control plane APIs to provision Kubernetes clusters in AWS and Azure directly from the Tanzu Mission Control platform.
- Designed and developed an internal open source tool to enable developers to quickly access and search through archived logs, reducing debugging time for customer issues by 80%.
- *Go, Kubernetes, Docker, PostgreSQL, AWS, Azure, Jenkins*

McKinsey & Company Jan 2020 – Mar 2022
Software Engineer 1 *Bangalore, India*

- Redesigned the architecture of a job queue system of a cloud-based e-learning platform by transitioning from self-managed queues to AWS, which enabled processing of 10x more jobs than before.
- Ported several Python backend services to the new design and delivered it with zero downtime to the services.
- Reduced the memory consumption of the queue worker processes by 70% using performance profiling and dependency analysis.
- *Go, Python, Redis, PostgreSQL, AWS, Docker, Kubernetes*

McKinsey & Company Jan 2018 – Dec 2019
Junior Software Engineer *Bangalore, India*

- Developed and optimized a microservice for splitting and sequencing of user tasks into small jobs, and scheduling jobs across multiple job queues, which enabled tasks to be completed 5-10x faster.
- Developed CI/CD pipelines to enable automated builds, tests, containerization and continuous delivery of all microservices.
- *Node.js, React.js, Redis, AWS, Docker*

Projects

Linux Kernel Modules | *C, Linux Kernel*

- Built a kernel module to allow user applications to use physically contiguous memory.
- Developed a kernel module which performs cooperative congestion control for the TCP protocol.

Container Runtime | *Rust*

- Minimal container runtime written from scratch, compliant with OCI spec interface.

eBPF Server | *Go, C, eBPF, XDP*

- Developed an in-kernel eBPF packet processing server and rate-limiter, for low-latency response to network packets.

Skills

Languages: Go, Rust, C, Python, Javascript, OCaml, C++, SQL
Technologies: Kubernetes, Docker, REST APIs, gRPC, eBPF, XDP, Linux kernel, PostgreSQL, Redis, MySQL, Git, AWS, Azure, GCP, CircleCI, Jenkins, Grafana, Terraform, Ansible, Vault, gdb, valgrind, Wireshark
Concepts: Systems Programming, Cloud Computing, Networks, Microservices, Distributed Systems, Operating Systems, OOPS, Functional Programming, Concurrent Programming, Databases (SQL, NoSQL), CI/CD, Full Stack Development, Agile
Certifications: Certified Kubernetes Application Developer (CKAD), AWS Solutions Architect Associate