Varad Belwalkar

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Education

D Y Patil college of engineering and technology, Kolhapur   2020-ongoing
Bachelor of Technology, Computer Science and Engineering | CGPA: 8.46

S.M. Lohiya Highschool | **New College, Kolhapur**   2018 | 2020
SSC, 10th | Grade: 96.2% | HSC, 12th Grade: 83.3%

Experience

o Deployed and maintaining the college server to ensure seamless access and availability of resources for students and faculties
o Published PaaS Framework as Docker image which has over **2.8K+** pulls on Docker Hub

Key Projects

Compute Services | *Distributed Systems*
o Engineered backend in **Go** to provide storage and container services by utilizing docker-SDK for Go
o Used **MongoDB** for storage, **Redis** for faster workflow, Computing platform, and Cookie-based sessions
o Implemented Client in Go with conventional security practices and hybrid encryption
o Implemented CI/CD pipeline using **Jenkins** to automate the build, test, and deployment process

Load Balancing standalone docker engines | *Hobby Research Project*   2022-ongoing
o Developing a custom **load-balancer** in **Go** to facilitate the load balancing on multiple nodes
o Service is in development and implementation following the Raft consensus algorithm

Ethereum-Facilitated Secure Tunnelling | *Blockchain Technology*
o Leveraging Smart Contracts on the PoA test network sepolia for End-to-End highly concurrent Webhook interface between client and server behind NAT, with RESTful client implemented in Django
o Only Contract owners will be able to communicate through the tunnel

Docker-DHCP on host bridge | *Networking*   2023-ongoing
o Building a network driver for networking on a host bridge with DHCP-allocated IP addresses in Go

Scalable Platform as a Service | *System Design*
o Built an **auto-scaling** container-based PaaS framework by implementing NGINX reverse-proxy to load-balance services controlled by replicated **Django-server** through Docker-Swarm
o Provided a deployment platform, auto-configuring clients for Linux and Windows systems and TLS verification and encryption from the client side

Web-based Labs | *Web application*   2022-ongoing
o Developing a User-friendly Web app with **ReactJS** providing services offered by the Compute service framework
o Implementing a built-in terminal and various conventional practices and security features

D-RAM Addressing Attack | *Computer architecture*
o Performed a timing attack on intel core i5 to reverse engineer the confidential address mappings
o Established a **Covert-Channel** to perform illicit inter-process communication between the host and isolated VM

Technical Skills

Languages: C/C++, Go, Python, JavaScript, PHP, Bash, Powershell, SQL, LaTeX
Software Tools: git, GitHub, Docker, Jenkins, Wireshark, Kubernetes, Ansible, Localstack, Terraform(Localstack), EVE-NG
Databases: MySQL, MongoDB, SQLite, Redis
Web Development: HTML5, CSS3, JavaScript, Node.js, ReactJS, ExpressJS, Django
Platforms: Linux,FreeBSD, MacOS, and Windows
Cloud Platforms: AWS
Firewalls: Palo-Alto, Fortigate

Position and Responsibility

o Carried out Linux-Wargames and took Linux-related sessions