

# Varad Belwalkar

Website: [belwalkarvarad.tech](http://belwalkarvarad.tech)

Github: [github.com/VaradBelwalkar](https://github.com/VaradBelwalkar)

Docker: [hub.docker.com/u/varadbelwalkar](https://hub.docker.com/u/varadbelwalkar)

Email: [belwalkarvarad@gmail.com](mailto:belwalkarvarad@gmail.com)

Mobile: +91-9766341094

## EDUCATION

---

- **D Y Patil college of engineering and technology** Kolhapur, India  
*Bachelor of Technology - Computer Science and Engineering; GPA: 8.46* 2020-ongoing
- **S.M. Lohiya Highschool | New College, Kolhapur** Kolhapur, India  
*Grade: 96.2% | HSC, 12th Grade: 83.3%* 2018 | 2020

## SKILLS SUMMARY

---

- **Languages:** C/C++, Go, Python, JavaScript, Java, PHP, Bash, Powershell, SQL,  $\LaTeX$
- **Software Tools:** Git, GitHub, Docker, LXD, Podman, Jenkins, Wireshark, Kubernetes, Ansible, Terraform, Kafka, ElasticSearch, EVE-NG
- **Databases:** MySQL, MongoDB, SQLite, etcd, Redis, Apache Ignite
- **Web Dev:** HTML5, CSS3, JavaScript, Node.js, ReactJS, ExpressJS, Django, GraphQL, Hugo
- **Platforms:** Linux, and Windows
- **Cloud Platforms:** Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)
- **Firewalls:** Palo-Alto, Fortigate

## EXPERIENCE

---

- **Tech Mahindra Ltd.** | Cyber Security Intern Upcoming Intern

## PROJECTS

---

- **Compute Services | Distributed Systems**
  - Engineered backend in Go to provide storage and container services by utilizing docker-SDK for Go
  - Used **MongoDB** for storage, **Redis** for faster workflow, Computing platform, and Cookie-based sessions
  - Implemented Client in Go with conventional security practices and hybrid encryption
  - Implemented CI/CD pipeline using **Jenkins** to automate the build, test, and deployment process
- **Load Balancing standalone docker engines | Hobby Research Project** 2023-ongoing
  - Developing a custom **load-balancer** in **Go** to facilitate the load balancing on multiple nodes
  - Service is in development and implementation following the Raft consensus algorithm
- **Docker-DHCP on host bridge | Networking**
  - Built a network driver for networking on a host bridge with DHCP-allocated IP addresses in Go
- **Ethereum-Facilitated Secure Tunnelling | Blockchain Technology**
  - Leveraged 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
  - Only Contract owners will be able to communicate through the tunnel
- **Decentralized Document Verification | Blockchain Technology**
  - Developed a blockchain-based certificate verification system to enhance the security and authenticity of academic credentials issued by educational institutions.
  - Implemented a Merkle tree as a base for enhanced security and efficiency in verifying academic credentials
- **Scalable Platform as a Service | System Design**
  - 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
  - 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**
  - Developed a User-friendly Web app with **ReactJS** providing services offered by the Compute service framework
  - Implemented a built-in terminal and various conventional practices and security features
- **D-RAM Addressing Attack | Computer architecture**
  - Performed a timing attack on intel core i5 to reverse engineer the confidential address mappings
  - Established a **Covert-Channel** to perform illicit inter-process communication between the host and isolated VM

## POSITION AND RESPONSIBILITY

---

- Written blogs, in-depth tutorials & How-Tos on various topics in various domains available on Website website
- Deployed and maintaining the college server to ensure seamless access and availability of resources
- Published PaaS Framework as Docker image which has over **2.8K+** pulls on Docker Hub registry
- Carried out Linux-Wargames and took Linux-related sessions dypcet