

Varad Belwalkar

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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, PHP, Bash, SQL, \LaTeX
- **Software Tools:** Git, GitHub, Docker, Jenkins, Wireshark, Kubernetes, Ansible, Localstack, Terraform(Localstack)
- **Databases:** MySQL, MongoDB, Redis
- **Web Dev.:** HTML5, CSS3, JavaScript, Node.js, ReactJS, ExpressJS, Django
- **Platforms:** Linux, FreeBSD, and Windows
- **Routing/Switching:** GNS3 and EVE-NG
- **Firewalls:** Palo-Alto, Fortigate

EXPERIENCE

- **Google Summer of Code - Submittity** Remote
Student Developer (Full-time) May 2019 - Sep 2019
 - **Discussion Forum Upgrades:** Refactor forum for performance to handle large databases.
 - **REST API for Discussion Forum:** / Symphony & Twig based Forum parts converted to API-first interface.
 - **Ratchet PHP WebSocket:** Implemented a WebSocket for low-latency real time exchange of posts and thread updates.
- **DataCamp Inc.** Remote
Instructor (Part-time, Contractual) Dec 2018 - Present
 - **Project Course - Find Movie Similarity from Plot Summaries:** Created project based course using Unsupervised learning and natural language processing.
 - **Tutorial - Introduction to Reinforcement Learning:** Created tutorial for Q-learning RL algorithm and concepts.
 - **Impact:** Course has been taken by 250+ students so far with 4.65 average rating.

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
- **Ethereum-Facilitated Secure Tunnelling** | *Blockchain Technology*
 - : 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
 - : Only Contract owners will be able to communicate through the tunnel
- **Docker-DHCP on host bridge** | *Networking* 2023-ongoing
 - : Building a network driver for networking on a host bridge with DHCP-allocated IP addresses in Go
 - **Tutorial - Introduction to Reinforcement Learning:** Created tutorial for Q-learning RL algorithm and concepts.
 - **Impact:** Course has been taken by 250+ students so far with 4.65 average rating.
- **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* 2022-ongoing
 - : Developing a User-friendly Web app with **ReactJS** providing services offered by the Compute service framework
 - : Implementing 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

- *Carried out Linux-Wargames and took Linux-related sessions* DYP CET
- **Event Organizer at Google Developers Group Kolkata** Kolkata, India
Organized events, conducted workshops and delivered workshops reaching over 7000 developers. Jan 2018 - Present