Chirayu Rathi

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About Me:

I am Chirayu Rathi, a 21-year-old B.Tech Computer Science and Engineering (Cyber Security) student. Passionate about coding, I possess a strong foundation in languages like Python and Java. With a focus on cybersecurity, I have knowledge in network security, cryptography, ethical hacking, and risk management. Eager to stay updated and learn more.

Education

Mukesh Patel School of Technology Management and Engineering 3.25/4 Mumbai
Bachelor of Technology in Computer Science and Engineering (Cyber Security *July. 2021 – May 2025*

Pace Jr. Science College 88.5 Mumbai
Junior college to prepare for Engineering entrance exams *June 2019 – May 2021*

Lakshadham High School 87 Mumbai
Pre-Primary, Primary and Secondary education *till May 2019*

Experience

Vodafone Idea Limited May 2024 – July 2024
Risk Assurance Intern *Mumbai*

- Scripting and Automation.
- Automated the hardening process of RHEL8 and RHEL9 virtual machines using scripts, reducing manual configuration time by 50 percent.
- Developed verification scripts to ensure compliance with desired configurations, improving system security and reliability.
- Gathered and stored evidence of configurations, facilitating easier audits and compliance checks.

OLL.co May 2023 – July 2023
Intern *Mumbai*

- Learned about Data Analysis, Marketing, and Market Research.
- Assess various tasks related to surveys and figure out how the business can be improved.

Blue Zone Systems Pvt. Ltd. May 2022 – July 2022
Intern *Mumbai*

- learned about .NET and C sharp.
- Learned how the two can be used together to create a complete website.

Projects

Medical Image Analysis | *Python* December 2023

- Used Deep Learning to make 3 models to detect: Brain tumor, Breast Cancer, and Skin Cancer
- 1. Brain Tumor Model: Examines brain scans to detect the presence of tumors.
- 2. Breast Cancer Model: Analyzes breast images to identify potential cancerous growths.
- 3. Skin Cancer Model: Detects and classifies different types of skin cancer from images.
- The models were made using Convolutional Neural Networks (CNNs) and a large number of medical images for training and testing purposes.

VAPT of a Server | *Kali Linux* March 2024

- We were assigned a server by our professor for our VAPT project, we had to find as much information as we could in the given timeperiod.
- I was able to find multiple vulnerabilities that could be exploited and used to escalate privileges.
- I was able to find hashed customer passwords, hashed employee passwords, addresses, salaries, etc.
- I was also able to gain access to company files, read messages and emails between employees, and enable or disable the web server

SecureSys - Universal Hardening and Compliance Toolkit | *Python, Bash, Linux* November 2024

- Developed an automation framework for system hardening and compliance on RHEL 8/9, OL 9, and RL 8/9
- Created Python and Bash scripts for enforcing security baselines (e.g., CIS Benchmarks) (Bash to configure and Python to verify)
- Built a Flask and Dash based web interface for executing security configurations and compliance checks.

- Integrated logging, reporting, and real-time compliance validation.
- Delivered comprehensive documentation for easy adoption.

System Health and Security Monitoring Dashboard | *Python* November 2024

- A real-time monitoring tool that tracks system performance, detects security threats, and raises alerts for anomalies.
- Monitors CPU, memory, network, and storage usage.
- Detects security issues like brute-force attacks and port scans.
- Displays metrics and active alerts in a dynamic dashboard.
- Sends messages on a channel on Slack when alerts arise and when they are acknowledged.

Improved Round Robin Scheduling Algorithm | *Python* April 2023

- Wrote a research paper with an improved version of Round Robin CPU scheduling algorithm in Python (not published).
- The algorithm:
- Process Queue Management: Processes are stored in a queue. The algorithm continuously pops the first process, executes it for a dynamic time quantum, and if incomplete, pushes it back to the queue.
- Dynamic Time Quantum: The time quantum is calculated based on the mean burst time of remaining processes and the current process's remaining time, allowing for adaptive scheduling.
- Completion and Turnaround Time: When a process completes, its turnaround time is calculated. The algorithm continues until all processes are finished, then sorts and displays turnaround times and calculates the average.

Swift – Fitness App | *Java, Android Studio* March 2023

- This fitness mobile app, developed using Android Studio and Java, offers a comprehensive health management solution.
- 1. BMI Index Tracker: Allows users to monitor their Body Mass Index over time
- 2. Customized Meal Plans: Generates diet recommendations based on the user's BMI and specific nutritional requirements.
- 3. Checklist for Medicines/Notes: Provides a utility for tracking medication schedules or recording health-related notes.

Apple Inventory Management System | *Java* April 2023

- This Apple Inventory Management System, developed using Java and SQL, offers a comprehensive solution for order placement and inventory tracking.
- 1. Order Processing: Allows users to place orders for premade Apple products, streamlining the purchasing process.
- 2. Custom PC/Laptop Builder: Provides the functionality to create custom PC and laptop configurations, catering to specific user requirements.
- 3. Inventory Tracking: Maintains real-time inventory levels, ensuring accurate stock information.
- 4. Database Integration: Utilizes SQL for efficient data storage and retrieval, managing product details, orders, and inventory.

Inventory Management System | *Python, SQL* October 2023

- This Inventory Management System, developed using Python and SQL, offers an efficient solution for tracking inventory and managing orders
- 1. Inventory Tracking: Maintains real-time records of available stock, likely including details such as product quantities, locations, and specifications.
- 2. Order Management: Allows for two types of orders: Internal ordering of parts when stock runs low and Customer ordering of finished products
- 3. Database Integration: Utilizes SQL for efficient data storage and retrieval, managing product details, orders, and inventory.

Technical Skills

Languages: Python, Java, C++/C sharp, SQL, JavaScript, HTML/CSS
Libraries: pandas, NumPy, Matplotlib, pytorch, keras, tensorflow, scikitlearn, turtle, tkinter (normal and custom), etc.