Bhargavi Poyekar

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Education

- **University of Maryland - Baltimore County** — **Maryland, United States**
  M.S. - Computer Science; GPA: 3.88 — Aug 2022 - May 2024
  Courses: Advanced Operating Systems, Principles of Computer Security, Neural Engineering, Machine Learning, Data Visualization.
- **Sardar Patel Institute of Technology, University of Mumbai** — **Maharashtra, India**
  B.Tech - Computer Engineering; GPA: 3.81 — Aug 2018 - May 2022

Experience

- **Cyber Security Summer Intern** — **June 2023 - Present**
  University of Maryland Baltimore County
  - **Virtual Machines**: Automated the launching, configuration, and management of virtual machines (VMs) using Ansible, resulting in a significant reduction in manual effort by approximately **50**%.
  - **Ansible** : Developed and executed **Ansible playbooks**, utilizing command line operations and Python scripting, to streamline deployment processes and ensure consistent configurations across VMs.
  - **Networks**: Applied networking concepts to create a network of virtual machines, facilitating hands-on exercises on DOS attacks, injection attacks, and cryptography, deepening understanding of cybersecurity principles.
- **Student Research Assistant** — **Sep 2022 - March 2023**
  University of Maryland Baltimore County (Part-time)
  - **ECG HRV Features**: Pioneered the extraction of time, frequency, and non-linear HRV features from ECG signal data using Python, contributing to the successful completion of the research.
  - **Machine Learning Models**: Improved model accuracy by **10%** using optimized machine learning models and enhanced model robustness by experimenting with Gaussian noise in the data.
- **Laravel Developer Intern** — **June 2020 - Aug 2020**
  Origin Cloud Tech
  - **Learning Management System**: Developed a **scalable** LMS Website using the Laravel Model-View-Controller Framework, resulting in an improved user experience and increased functionality, outperforming the project requirements.
  - **Authentication and API's**: Streamlined the system's security by implementing **multifactor authentication**, incorporating email and mobile OTP verification. Expertly integrated various APIs, including payment methods such as Paypal and Razorpay, message and location APIs, and Zoom API, improving the efficiency and effectiveness of the website.
  - **UI and Database**: Designed an aesthetically pleasing user interface for the application using **HTML, CSS, Bootstrap, and Javascript**, showcasing strong UI/UX design skills. Directed the database management process by creating a well-structured database design and performing CRUD queries with the use of join operations.
- **Website Developer Intern** — **May 2020 - June 2020**
  Ask in City
  - **Frontend and Backend**: Utilized **HTML and PHP** to design and implement new features in an e-commerce project, resulting in an enhanced user experience and improved website functionality.
  - **Agile Framework**: Successfully implemented agile methodology, attending daily **scrum meetings** and working collaboratively with team members leading to efficient and timely project completion.

Projects

- **Token Manager (Socket Programming, Replication, Atomic Semantics, Fail Silent model)**: Developed a client-server application for token management. Implemented replication (1, N), supporting multiple reader nodes and a single writer node. Deployed a resilient **read-impose-write-all** protocol, ensuring accurate maintenance of token state information and fail-silent behavior for server nodes. **Tech: Go, gRPC, Google Protocol Buffer.**
- **Cyber Attacks and Prevention (ARP Poisoning, SSL/TLS, Diffie Hellman, RC4, DOS, Firewall)**: Simulated **MITM** attacks, ensuring interception and access to sensitive information. Implemented secure communication channels for protected data transmission. Expertise in mitigating DOS attacks and safeguarding systems. **Tech: Netcat, TcpDump, Arpspoof, Apache, Linux, Openssl, UFW, Hping**
- **Face Recognition Attendance System for Online Classes (Neural Network, Computer Vision)**: Created a reliable attendance system with an accuracy of **93%** for online classes that utilizes sophisticated face detection and recognition algorithms. Improved the model to function seamlessly even in adverse conditions such as low light intensity, maximum head tilt, and blurred images. Tech: **Python, HOG, VGG, Django, CNN, Scikit-learn, Pandas, Numpy, Matplotlib.**
- **EMOMUSIC: (Computer Vision, Web Development**: Developed an intuitive application that identifies a user's emotional state through facial expression analysis with **96%** accuracy and recommends a customized playlist based on the analysis. Created an advanced music player to play the recommended songs tailored to the user's emotional state. **Tech: Python, Django, CNN, HTML, JavaScript, SQLite**

Technical Skills

- **Languages and Database**: **Python, Java, C**, PHP, Go, JavaScript, SQL, HTML, Dart, MySQL, SQLite, MongoDB
- **Frameworks**: **Django, Django-Rest**, Laravel, ExpressJS, AngularJs, Flutter, Android Studio, Scikit, TensorFlow
- **Others**: **GIT, Linux, Ansible**, Tableau, Matplotlib, Jupyter, Pandas, Numpy, Bootstrap, JQuery, API, JWT