Pranay Kumar

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Professional Experience

MoEngage   June 2023 - Present
DevSecOps Engineer (Previously Intern)   *Bangalore, India*

- Spearheaded the development and implementation of **Kavach**, a unified CSPM, SOAR, and SIEM platform, significantly enhancing cloud security and compliance across AWS environments:
  * Developed **50+ Python-based policies** for real-time AWS infrastructure monitoring, ensuring adherence to CIS and ISO compliance standards, **improving compliance visibility**.
  * Engineered and deployed automated remediation pipelines utilizing AWS Lambda and Harness to proactively address identified vulnerabilities, **reducing mean time to remediation (MTTR) by 50%**.
  * Streamlined alerting and progress tracking by integrating with **Slack and Jira**, enhancing communication and **automating security event documentation totally**.
  * **Tech Stack:** Python, AWS Lambda, Harness, Boto3
- Implemented robust Python scripts leveraging **Boto3** for automating security audits, key rotations, and incident response workflows, boosting operational efficiency and security posture. Automating security checks, saving 10 hours quarterly
- Architected and delivered **SSP**, an internal Application Access Management tool, to centralize and control access to critical platforms:
  * Developed a comprehensive full-stack solution using **Django (backend) and Next.js (frontend)**, with **MongoDB, Nginx**, deployed on **AWS EC2** with **Route53** and **Load Balancers**, currently **serving 750+ internal users/applications**.
  * Established robust **CI/CD pipelines** for automated code deployments, **reducing deployment times by 70%** and ensuring consistent, reliable releases.
  * Orchestrated integrations with key enterprise systems including **Certificate Manager, AWS, StrongDM, GitHub, Jira, Harness, Zscaler, and OKTA, JAMF, and more**, **streamlining access management for 10+ critical applications**.
  * **Tech Stack:** Django, Next.js, MongoDB, Nginx, AWS EC2, Route53, Load Balancers

HPE in collaboration with National University of Singapore   June 2022 – July 2022
MLOPS Intern   *Singapore*

- Conducted in-depth analysis of audio signals using **librosa and pyAudioAnalysis** libraries, extracting short-term features for emotional speech recognition.
- Developed and trained a **Convolutional Neural Network (CNN)** to classify emotions in speech based on extracted features, achieving an **accuracy of over 93%** for detecting happiness, anger, and sarcasm across diverse datasets.

Personal Projects

Timetable | *Web-based Timetable Generation for Teachers*

- Developed a web application to automate the creation of timetables for teachers, significantly optimizing scheduling efficiency.
- Utilized **Git** for version control and **Docker** for containerizing the application, ensuring portability and consistent deployment.
- Implemented robust **RESTful APIs** using **Django**, incorporating efficient routes and controllers for seamless data management.
- Integrated **Celery and Redis** for handling asynchronous tasks, critically improving application responsiveness and user experience.
- **Tech Stack:** React, Docker, Celery, MongoDB, MySQL, Django, Redis

Education

Bennett University   Greater Noida, India
B.Tech Computer Science, 2020-2024   *CGPA: 8.69*

Venkateshwar International School   Delhi, India
Senior Secondary School, 2020   *Percentage: 90%*

Technical Skills

Languages: Python, Shell Scripting, JavaScript, HTML/CSS
DevOps/Cloud Tools: Git, Docker, Kubernetes, Harness, AWS, Terraform, Ansible, Jenkins
Security Tools: Hashicorp Vault, SIEM, SOAR, CSPM, Firewall
Frameworks/Libraries: Django, Next.js, Boto3, Librosa, pyAudioAnalysis
Databases: MongoDB, MySQL, Redis
Operating Systems: Linux, Windows
Collaboration: Slack, Jira, Trello, Lucidchart, Confluence

Certifications & Achievements

Research Paper: Deep Learning Based Bug Detection in Solidity Smart Contracts — *Published in Springer (RTIP2R 2023)*
Authored research on a novel methodology using Convolutional Neural Networks (CNNs) to detect critical security vulnerabilities in Solidity smart contracts, significantly enhancing blockchain security.

Rockstar Award from MoEngage for exceptional performance. This was for the development of the SSP

AWS Cloud Practitioner Essentials Certificate — Coursera - Demonstrated foundational knowledge of AWS services and concepts, cloud architecture and security.