Pratyush Paliwal

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Education

Technische Universität Darmstadt — Darmstadt, Germany
M.Sc. in Computer Science, Specialization in Data Science Engineering — *Oct. 2024 – present*

IIIT Bhubaneswar — Bhubaneswar, India
Bachelor of Technology in Information Technology — *Aug. 2017 – May 2021*

Experience

Fraunhofer SIT — June 2025 – Present
Research Assistant

- Experimenting with AI/ML frameworks for NLP to detect unsolicited chat behavior and Authorship Attribution in online spaces, while building interactive front-end demonstrations supporting interactive UI/UX.

Dell Technologies — Feb. 2021 – Sep. 2024
Software Engineer - 2

- Led and automated release cycles for secure, vulnerability-free Docker images used in global Dell CI/CD pipelines, reducing release cycle time by 50% and manpower requirements by 66%.
- Led Front-End development using React-Redux for a web app enabling users to build Docker images via a user-friendly interface.
- Developed script wrapper to integrate automated browser testing (Moon, SeleniumBox) for multiple languages and frameworks into CI/CD pipelines.
- Built automation tools (Python, Groovy, JavaScript, Shell) and supported application teams in adopting DevOps practices, resolving deployment issues, and transitioning to new SDLC tools across Dell Digital.
- Evaluated third-party security tools and built a Python wrapper to integrate Snyk into CI/CD pipelines, enabling seamless application security testing across Dell development teams.

Projects

Container Image Builder | *React-Redux, Podman, Docker, Python, CI/CD* — Mar. 2024 – Sept. 2024

- Worked on a no-code/low-code solution for cutting down Docker Desktop Enterprise licensing costs by 80%, enabling Dev teams to build container images through a web-based App leveraging Podman
- Implemented a parallel container image build pipeline for multiple tech stack versions, reducing build time by 60%
- Allowed for Enhanced security and lightweight microservices architecture using non-root, daemonless containers across application teams

Pipeline Error Resolution - RAG Model | *Machine Learning, ELK stack, serverhooks* — May 2023 - Feb. 2024

- Worked on a Retrieval Augmented NLP model trained on a large dataset of Error-Resolution pair used for self-sustaining deployment pipeline, targeting 70% of pipeline failures for automation
- Implemented serverhooks for identifying pipeline failures by parsing the job log errors
- Updated Database for novel error encounters making it flexible and scalable

Publications/Recognitions/Trainings

- **Patent**: Titled "Automated Error Resolution in a Software Deployment Pipeline", Patent Number US-20240345904-A1, United States Patent and Trademark Office, 17/10/2024 *[View Document]*
- **Training**: DevOps Certification Training, Simplilearn, credential ID 4140669, Feb. 2023
- **Course**: Algorithmic and Theoretical Aspects of Machine Learning, Co-sponsored by Microsoft and Mphasis, ACM Summer School, IIIT Bangalore, June 2019
- **Recognitions**: Game Changer award, Dell Technologies, for leading a release that resulted in a substantial reduction in the overall Vulnerabilities count in Container Images

Technical Skills

Languages: Python, JavaScript, C/C++, ShellScipt, HTML/CSS, SQL, Groovy, Scala
Frameworks: React, Node.js, Pytorch, Tensorflow, Flask, Django, Material-UI, WordPress, RestAPI
Developer/Professional Tools: Docker, Kubernetes, Git, Pivotal Cloud/Container Service (PCF/PKS), GitHub/GitLab, CI/CD, Jenkins, Jupyter, Ansible, Snyk, Postman, HashiCorp, PowerApps, JFrog Artifactory, ServiceNow, JIRA Administration