Uday Kiran Cheera

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Summary

Driven with boundless curiosity for exploring cutting-edge technologies including machine learning, cybersecurity and Blockchain. Extensive hands-on experience through internships and research projects in algorithm development, predictive modeling, digital forensics, and defensive security. Proficient in Python scripting with expertise in penetration testing tools (Metasploit, Nmap) and specialized knowledge in Linux systems, containerization (Podman). Researching to tackle complex challenges in software effort estimation, network threat detection, and medical AI applications while continuously pushing technological boundaries

Education

Jawaharlal Nehru Technological University Gurajada, Vizianagaram   *2021 – 2025*
B.Tech in Information Technology (CGPA: 7.6/10)

Skills

Programming & Scripting	Python, Java, C, SQL, Rust
AI & Machine Learning	Transformers, Large Language Models (LLM), NLP, DeepLearning(CNNs,RNNs & BERT)
ML Frameworks & Tools	Git, PyTorch, TensorFlow, Scikit-learn, Keras, OpenCV, NLTK, Altair AI Studio, Watsonx.ai
Web Development	HTML, CSS, FastAPI, Node.js, JSP, Java Servlets
Databases	PostgreSQL, MySQL, MongoDB, Cloudant, Cloud Platforms (AWS/IBM)
CyberSec	Network Security, Digital Forensics, Threat Analysis (Nmap, Metasploit, photorec, sqlinjection e.t.c)
Tools & Platforms	Linux(.rpm), Vim, GNS3, Wireshark, Docker, ALTAIR AI Studio, Eclipse, Jupyter, Tomcat, Manim

Research Experience

ML Research Intern – NIT Warangal   *May 2024 – Jun 2024*

- Ensembeled Analogy-Based Estimation (ABE) with Firefly optimization to improve software effort estimation; achieved up to **27%** accuracy improvement.
- Implemented and benchmarked SVM, ELM, and KNN across 6 public datasets (COCOMO81, Desharnais); performed Pearson correlation feature selection and evaluated with MMRE, MAE, and RMSE metrics.
- Research conducted under the guidance of **Dr. Manjubala Bisi**.

Professional Experience

Cybersecurity Intern – APSAC & Blackbucks   *Jan 2025 – Apr 2025*

- *Cybersecurity Essentials for a safer digital world*, mentored by APSAC (Andhra Pradesh Space Application Centre) and Blackbucks Education.
- Conducted threat analysis and vulnerability assessments
- Developed Honeypot application and implemented cybersecurity measures

Cyber Forensics Intern – Innogeecks Technologies Pvt. Ltd.   *Jun 2024 – Aug 2024*

- Performed digital forensics investigations using Encase, photorec, Autopsy e.t.c
- Conducted security assessments using tools (Metasploit, Nmap) in controlled environments, identifying critical vulnerabilities in network infrastructure
- Demonstrated quick learning, diligence, and proactive contribution to team deliverables.

Frontend Intern – Edunet Foundation(with IBM)   *Jul 2023 – Aug 2023*

- Built and deployed an interactive e-book store using HTML, CSS, and JavaScript.
- Implemented responsive design and achieved 100% accessibility score.
- Gained foundational skills in web development, UI/UX best practices, and front-end deployment.

Projects

WorkWise AI: Career Growth Platform with IBM Granite Models   **video**   **repo**

- Built AI-powered career guidance platform using IBM Granite models(For IBM Hackathon), supporting UN SDG 8 for decent work and economic growth
- Implemented personalized learning recommendation system and resume optimization tools using natural language processing.
- Developed bias detection algorithms for fair labor practices and inclusive job matching using Flask and Bootstrap

Dynamic Graph Neural Network for Network Threat Detection   **repo**

- Implemented temporal graph modeling of network traffic patterns to detect sophisticated threats that evade traditional signature-based system.
- Integrated GNS3 network simulation environment with Wireshark for comprehensive traffic analysis and threat pattern recognition.
- containerized solution using Docker with automated alert systems for enterprise network monitoring

Diabetic Retinopathy Detection using Quantum Enhanced Vision Transformers   **demo**   **animation**

- Architected a novel quantum-enhanced Vision Transformer for early diabetic retinopathy detection; achieved **92%** accuracy in classifying severity stages from retinal fundus images.
- Implemented quantum computing simulations to enhance feature extraction, reducing computational complexity by **35%** compared to classical approaches.

Effort Estimation Ensemble Model

- Optimized software effort estimation by ensembling Firefly Algorithm with Analogy-Based Estimation (ABE).
- Outperformed standalone SVM, ELM, and KNN across 6 benchmark datasets, reducing MMRE and RMSE.

Faculty Management System *Java, JSP, Servlets, PostgreSQL, Tomcat*

- Developed a full-stack Faculty management platform with secure user authentication and dynamic CRUD operations.
- Enabled efficient order tracking and streamlined backend workflows on PostgreSQL and Tomcat.

Publications

- *Ensembling Firefly Algorithm with Analogy-Based Estimation for Software Effort Prediction* – Research work completed, manuscript in preparation for submission.

Leadership & Awards

- Event Coordinator, ITYUKTA 2K24 Tech Fest.
- Winner, National Science Day – JNTU'22.
- Community Service Volunteer, Shikshana Foundation- Instructed 250+ underprivileged students in Govt schools facing backwardness in studies due to covid-19 pandemic.

Achievements

- Achieved **97 percentile** in JEE-Mains 2020.
- Scored **9.7 GPA** in Class X.
- Scored **94%** in Intermediate.

Key Certifications

Micromasters in Big Data Technology	Hong Kong University of Science and Technology
Micromasters in CyberSecurity	Rochester Institute of Technology
Professional Certificate in Rust Programming	Pragmatic AI Labs
Machine Learning Master	Altair (Professional AI/ML Certification)
Professional Certificate in Cloud Solutions Architecture	AWS
Professional Certificate in Blockchain for Business	Linux Foundation
Certified Oracle Database Foundations & AI with Machine Learning in Java	Oracle
DevOps on AWS	AWS
Kubernetes, Cloud Native Technologies & Secure Software Development	Linux Foundation
Professional Certificate in Cloud Application Development Foundations	IBM
Professional Certificate in Open Source Software Development	Linux Foundation
Professional Certificate in Rust Programming	Pragmatic AI Labs
Professional Certificate in Quantum Computing with Semiconductor Technology	Delft University of Technology
Professional Certificate in Advanced Embedded Systems on Arm	arm Education
Professional Certificate in Leadership and Communication	HarvardX